1.1 HAWAI`I

1.1.1 DATA SOURCES

This report contains the most recently available information on Hawaii's commercial pelagic fisheries, as compiled from four data sources: The State of Hawaii's Division of Aquatic Resources (HDAR) Commercial Marine License data (CML), Commercial Fishing Report data (Fishing Report), HDAR Commercial Marine Dealer's Report data (Dealer), and NMFS, Pacific Islands Fisheries Science Center's (PIFSC) longline logbook data.

Any fisherman who takes marine species for commercial purposes is required by HDAR to have a CML and submit a monthly catch report. An exception to this rule is that should a fishing trip occur on a boat, only one person per vessel is required to submit a catch report. This person is usually, but not necessarily, the captain. Crew members do not ordinarily submit catch reports. HDAR asks fishermen to identify their primary fishing gear or method on the CML at time of licensing. This does not preclude fishermen from using other gears or methods. Data sources and estimation procedures are described below.

The Hawai`i-permitted Longline Fishery: The federal longline logbook system was implemented in December 1990 and it is the main source of the data used to determine longline vessel activity, effort, fish catches and catch-per-unit-effort (CPUE). Logbook data have detailed operational information and catch in number of fish. Longline vessel operators are required to declare whether they will be making a deep-set or shallow-set trip prior to their departure. A deep-set is defined as a set with 15 or more hooks between floats as opposed to a shallow-set that is characterized by setting less than 15 hooks between floats.

Number of fish caught by Hawai`i-permitted longline fishery is a sum of the number of fish kept and released whereas the calculation of weight for longline catch only includes the number of fish kept. Another important data set is the HDAR Commercial Dealer data. Dealer data dates back to 1990 with electronic submission beginning in mid-1999. Revenue, average weight and average price are derived from the Dealer data.

The logbook and Dealer data were used to calculate the weight of longline catch. Longline purchases in the Dealer data was identified and separated out by matching longline trips based on a specific vessel name and its return to port date in the logbook data with the corresponding vessel name and purchase date(s) in the Dealer data. The general procedure of estimating longline catch for each species was done by first calculating an average weight by dividing the longline Dealer data "LBS. BOUGHT" by the "NO. BOUGHT". This average weight was multiplied by the total number kept from the longline logbook data to estimate the total weigh of catch kept. Revenue was the simple sum of "AMOUNT PAID" from the Dealer data based on longline trips which were matched with logbook data. Swordfish are processed at sea and landed headed and gutted. Tunas and mahimahi that weighed more than 20 lbs and marlins greater than 40 lbs must be gilled and gutted prior to sale. A conversion factor is applied to processed fish to estimate whole weight. Average weight statistics were calculated separately for the deep-set and shallow-set longline fisheries. Each species needed a minimum of 20 samples within a month of each RFMO area, i.e., WCPO or EPO, in order to calculate a mean weight. If this criterion was not met, the time strata was increased to a

quarter, year or multi-year period until there were enough samples to calculate a mean weight. Some species which were landed in low numbers needed to be aggregated to a multi-year period. Consequently, their respective annual mean weights are the same from year to year or repeat over time.

Catch and effort summaries in this Module were based on RFMO standards and business rules. Longline catch and efforts statistics in this Module consists of U.S. longline fisheries in the North Pacific Ocean, attributions from CNMI, Guam and American Samoa in the North Pacific Ocean. Longline vessels operating from California were also included in this report to satisfy RFMO data reporting and NOAA confidentiality standards. Most of these vessels had Hawai`i limited-entry permits. The only exception to summaries using RFMO standards was catch and effort statistics using boundaries within or outside of U.S. EEZs. Since there were substantial differences in operational characteristics and catch between the deep-set longline fishery targeting tunas and the shallow-set longline fishery targeting swordfish, separate summaries were provided for each longline fishery.

MHI Troll Fishery: Catch and effort by the MHI troll fishery was defined as using a combination of pelagic species, gear and area codes from the HDAR Fishing Report data. The HDAR codes for the MHI troll fishery includes summaries of PMUS caught by Miscellaneous Trolling Methods (gear code 6), Lure Trolling (61), Bait Trolling (62), Stick Trolling (63), Casting, Light Tackle, Spinners or Whipping (10) and Hybrid Methods (97) in HDAR statistical areas 100 through 642. These are areas that begin from the shoreline out to 20 minute squares around the islands of Hawai`i, Maui, Kahoolawe, Lanai, Mokolai, Oahu, Kauai and Niihau.

MHI Handline Fishery: The MHI handline fishery includes PMUS caught by Deep Sea or Bottom Handline Methods (HDAR gear code 3), Inshore Handline or Cowrie Shell (Tako) Methods (4), Kaka line (5), Ika_Shibi (8), Palu-Ahi, Drop Stone or Make Dog Methods (9), Drifting Pelagic Handline Methods (35) and Floatline Methods (91) in HDAR statistical areas 100 to 642 except areas 175, 176, and 181.

Offshore Handline Fishery: The offshore handline fishery includes PMUS caught by Ika-Shibi (HDAR gear code 8), Palu-Ahi, Drop Stone or Make Dog Methods (9), Drifting Pelagic Handline Methods (35), Miscellaneous Trolling Methods (6), Lure Trolling (61), and Hybrid Methods (97) in Areas 15217 (NOAA Weather Buoy W4), 15717 (NOAA Weather Buoy W2), 15815, 15818 (Cross Seamount) , 16019 (NOAA Weather Buoy W3), 16223 (NOAA Weather Buoy W1), 175, 176, 181, 804, 807, 816, 817, 825, 839, 842, 892, 893, 894, 898, 900, 901, 15416, 15417, 15423, 15523, 15718, 15918, 15819, and 16221. This fishery also includes pelagic species caught by Deep Sea or Bottom Handline Methods (3) in Area 16223.

Other Gear: This category represents pelagic species caught by methods or in areas other than those methods mentioned above. Catch and revenue from this category is primarily composed of PMUS caught by the aku boat fishery, fishers trolling in areas outside of the MHI (the distant water albacore troll fishery) or PMUS caught close to shore by diving, spearfishing, squidding, or netting inside of the MHI.

Calculations: Pelagic catch by the MHI troll, MHI handline, offshore handline, and other gear were calculated by summing "Lbs LaBS LANDED" from the HDAR Fishing Report data based on the gear and area codes used to define each gear type. The percent of catch for each pelagic species was calculated from the "LBS LANDED" by the MHI troll, MHI handline offshore handline and other gear and used to estimate the "LBS SOLD" and revenue of each fishery.

Catch in the HDAR Dealer data, referred to as "LBS. BOUGHT", by each fishery was not clearly differentiated however, "LBS. BOUGHT" by the longline and aku boat fisheries were identified by CML numbers and/or vessel names and kept separate from the "non-longline & non-aku boat" Dealer data. This remaining "LBS. BOUGHT" along with the "AMOUNT PAID" from Dealer data for the "non-longline and non-aku boat" fisheries was used to calculate average weight, revenue and average price for the MHI troll, MHI handline, offshore handline fisheries and other gear category. "LBS. BOUGHT" from this Dealer data was summed on a species specific basis. The percent of catch calculated from the HDAR Fishing Report "LBS LANDED" for each species and by each fishery was used in conjunction with total "LBS. BOUGHT" from the HDAR Dealer data to apportion "LBS. BOUGHT" and "AMOUNT PAID" or revenue accordingly to each respective fishery. This process was repeated on a monthly basis to account for the seasonality of catch and variability of activity for each fishery. Revenue and average price are inflation-adjusted by the Honolulu CPI.

1.1.2   SUMMARY OF HAWAIʻI PELAGIC FISHERIES

The following is a summary of effort, catch, CPUE, size of fish, revenue and bycatch for the main pelagic fisheries (deep set and shallow set longline, MHI troll, MHI handline, and offshore handline).

Participation. A total of 3,124 fishermen were licensed in 2019, including 1,929 (62%) who indicated that their primary fishing method and gear were intended to catch pelagic fish. This is a 6% decrease in fishing licenses from the previous year. Most licenses that indicated pelagic fishing as their primary method were issued to longline fishermen (46%) and trollers (40%). The remainder was issued to ika shibi and palu ahi (handline) (14%).

Catch. Hawaiʻi commercial fisheries caught and landed 36.5 million pounds of pelagic species in 2019, a decrease of 3% from the previous year. Although each fishery targets or intends to catch a particular pelagic species, a variety of other species were also caught. The deep-set longline fishery targeted bigeye and yellowfin tuna. This was the largest of all pelagic fisheries and its total catch comprised 87% (32.0 million pounds) of all pelagic fisheries. The shallow-set longline fishery targeted swordfish and its catch was 837,000 pounds, or 2% of the total catch. The main Hawaiʻi Islands troll fishery targeted tunas, marlins and other PMUS caught 2.5 miion pounds or 7% of the total. The MHI handline fishery targeted yellowfin tuna while the offshore handline fishery targeted bigeye tuna. The MHI handline fishery accounted for 675,000 pounds (2% of the total). The offshore handline fishery was responsible for 477,000 pounds or 1% of the total catch.

The largest component of the pelagic catch was tunas, which comprised 68% of the total in 2019. Bigeye tuna alone accounted for 72% of the tunas and 49% of all the pelagic catch. Billfish catch made up 16% of the total catch in 2019. Blue marlin was the largest of these, at 41% of the billfish and 6% of the total catch. Catches of other PMUS represented 16% of the total catch in 2019 with moonfish being the largest component at 37% of the other PMUS and 6% of the total catch.

Effort. There were 150 active Hawai`i-permitted deep-set longline vessels in 2019, seven more vessels than the previous year, with 140 or more deep-set vessels in the past 5 years. The number of deep-set trips (1,724) and sets (22,513) were both deep-set effort records. The number of hooks set by the deep-set longline fishery reached a record 63.2 million hooks in 2019. The Hawai`i-permitted shallow-set longline fishery operates mainly in the first half of the year. In 2019, 14 vessels completed 25 trips and made 284 sets, which was significantly lower effort for this segment of the fishery due to the closure of the fishery in March as a result of reaching the loggerhead sea turtle interaction limit. The number of hooks set by this fishery also decreased to 400,000 in 2019, a record low since the reopening of the shallow-set fishery in 2004. The number of days fished by MHI troll fishers has been trending lower from its peak in 2012, with 1,291 fishers logging 20,359 days fished around the MHI in 2019. There were 438 MHI handline fishers that fished 3,629 days in 2019, both at their lowest levels in the ten-year period. The offshore handline fishery had 7 fishers and 261 days fished in 2019.

CPUE. The deep-set longline fishery targets bigeye tuna and this species had higher CPUE (3.5 fish per 1,000 hooks) compared to yellowfin tuna (1.0) and albacore (0.1). CPUE of blue marlin and striped marlin for the deep-set fishery were low (0.2 and 0.3 fish per 1,000 hooks, respectively), while the CPUE for blue shark, a bycatch species, is second only to bigeye at 1.8 fish per 1,000 hooks. The Hawai`i-permitted shallow-set longline fishery targets swordfish and had a CPUE of 9.8 fish per 1,000 hooks in 2019 followed by blue shark, a bycatch species of this fishery, with a CPUE of 8.5 fish per 1,000 hooks. The 2019 MHI troll fishery CPUE for yellowfin tuna was above the long-term average with blue marlin at a 10-year high CPUE. Mahimahi and ono CPUE were both above their long-term average in 2019. MHI handline CPUE for yellowfin, albacore and bigeye tuna were all below their long-term mean weights in 2019. Bigeye tuna CPUE for the offshore handline fishery increased from 2017 while yellowfin tuna decreased during the same time period.

Fish Size. The average weight for most tunas species caught by the deep-set longline fishery were close to their respective long-term weights in 2019. Bigeye tuna caught in the deep-set fishery was 79 lbs in 2019, close to the long-term average. The size of swordfish was much higher from 2017 while marlins were below their respective long-term average weights in 2019. The mean weight of other PMUS and PMUS sharks were close to their respective long-term average weights. Swordfish caught by the shallow-set longline fishery was 217 pounds, well above the 10-year average. In general, the average weight of most fish caught by the shallow-set longline fishery is higher than fish caught by the deep-set longline fishery. The average weight for tunas caught by the troll and handline fisheries was close to their long-term average in 2019. Troll and handline caught blue marlin was below its long-term mean weight.

Revenue. The total revenue from Hawaii's pelagic fisheries was $105.6 million in 2019, a decrease of 11% from the previous year. Bigeye tuna and yellowfin tuna represented 60% and 20% of the total pelagic revenue, respectively in 2019. The deep-set longline revenue was $92.9 million in 2019. This fishery represented 88% of the total revenue for pelagic fish in Hawaii. The shallow-set longline fishery decreased to $2.0 million and accounted for 2% of the revenue. The MHI troll revenue was $7.2 million or 7% of the total in 2019 and was followed by the MHI handline fishery at $2.2 million (2%). The offshore handline fishery was worth $1.0 million in 2019. The trend for revenue from the deep-set longline was increasing although it dropped 11% in 2019. Revenue for the shallow-set longline fishery was decreasing. The revenue from the MHI troll, MHI handline and offshore handline fishery showed some variability and no clear trend over the past ten years.

Bycatch. A total of 144,677 fish were released by the deep-set longline fishery in 2019. Sharks accounted for 87% of the deep-set longline bycatch. With the exception for mako and a few thresher sharks, there is no demand for other shark species in Hawaii. Of all shark species combined, 99.6% of the deep-set longline shark catch was released. Conversely, bycatch rate for the deep-set longline fishery was only 3% for targeted and incidentally caught pelagic species in 2019. A total of 3,286 fish were released by the shallow-set longline fishery in 2019. Sharks accounted for 94% of the shallow-set longline bycatch. With the exception for mako shark, there is almost no demand for sharks in Hawaii. Of all shark species combined, 97% of the shallow-set longline shark catch was released. Conversely, bycatch rate for the shallow-set longline fishery was 4% for targeted and incidentally caught pelagic species in 2019. Since shallow-set longline trips are often longer than deep-set trips, the higher release rate by the shallow-set sector is to conserve space for swordfish and forego keeping other pelagic species due to their short shelf life.

1.1.3   PLAN TEAM RECOMMENDATIONS

The recommendations by the Pelagic Plan Team for the Hawaii Module in the 2018 SAFE Report were:

1.   .

1.1.4 OVERVIEW OF PARTICIPATION – ALL FISHERIES

Table 1. Number of HDAR Commercial Marine Licenses, 2018-2019.

	Number of licenses	
Primary Fishing Method	**2018**	**2019**
Trolling	826	775
Longline	887	894
Ika Shibi & Palu Ahi	267	258
Aku Boat (Pole and Line)	2	2
Total Pelagic	1,982	1,929
Total All Methods	3,308	3,124

## 1.1.5   OVERVIEW OF CATCH AND ECONOMIC DATA

Table 2. Hawai`i commercial pelagic catch, revenue, and average price by species, 2018-2019.

Species	2018 Catch (1,000 lbs)	2018 Ex-vessel revenue ($1,000)	2018 Average price ($/lb)	2019 Catch (1,000 lbs)	2019 Ex-vessel revenue ($1,000)	2019 Average price ($/lb)
Tuna PMUS						
Albacore	239	$399	$1.82	255	$488	$1.82
Bigeye tuna	17,093	$67,520	$4.24	17,758	$63,508	$3.87
Bluefin tuna	1	$27	$8.53	4	$65	$5.78
Skipjack tuna	530	$658	$1.79	828	$815	$1.27
Yellowfin tuna	7,567	$26,821	$3.73	5,952	$20,565	$3.54
Other tunas	10	$18	$3.02	10	$17	$3.14
Tuna PMUS subtotal	**25,439**	**$95,443**	**$4.02**	**24,807**	**$85,457**	**$3.69**
Billfish PMUS						
Swordfish	2,329	$3,762	$2.16	1,625	$3,801	$2.55
Blue marlin	1,808	$1,633	$1.28	2,335	$1,328	$0.72
Spearfish (hebi)	504	$586	$1.21	452	$418	$0.91
Striped marlin	1,052	$1,725	$1.37	1,238	$1,229	$0.88
Other marlins	39	$56	$1.28	50	$61	$0.52
Billfish PMUS subtotal	**5,732**	**$7,763**	**$1.62**	**5,700**	**$6,836**	**$1.29**
Other PMUS						
Mahimahi	1,077	$3,560	$3.55	1,000	$3,453	$3.67
Ono (wahoo)	1,176	$3,061	$2.68	1,591	$3,635	$2.39
Opah (moonfish)	3,070	$3,356	$1.44	2,255	$3,120	$1.93
Oilfish	315	$238	$0.79	306	$252	$0.95
Pomfrets (monchong)	878	$2,899	$3.12	749	$2,733	$3.50
PMUS Sharks	139	$63	$0.68	115	$83	$1.14
Other PMUS subtotal	**6,654**	**$13,176**	**$2.27**	**6,017**	**$13,276**	**$2.56**
Other pelagics	**12**	**$13**	**$0.79**	**5**	**$8**	**$1.61**
Total pelagics	**37,838**	**$116,395**	**$3.39**	**36,529**	**$105,577**	**$3.14**

Table 3. Hawai`i commercial pelagic catch, revenue, and average price by fishery, 2018-2019.

Fishery	2018 Catch (1,000 lbs)	2018 Ex-vessel revenue ($1,000)	2018 Average price ($/lb)	2019 Catch (1,000 lbs)	2019 Ex-vessel revenue ($1,000)	2019 Average price ($/lb)
Deep-set longline	32,410	$102,981	$3.39	31,955	$92,861	$3.10
Shallow-set longline	1,438	$1,576	$2.13	837	$1,969	$2.82
MHI trolling	2,743	$8,121	$3.69	2,460	$7,229	$3.64
MHI handline	778	$2,427	$3.66	675	$2,152	$3.67
Offshore handline	366	$973	$3.23	470	$1,018	$2.72
Other gear	104	$316	$3.63	131	$349	$3.23
Total	**37,838**	**$116,395**	**$3.39**	**36,529**	**$105,577**	**$3.14**

Figure 1. Hawai`i commercial tuna, billfish, other PMUS and PMUS shark catch, 2010-2019.
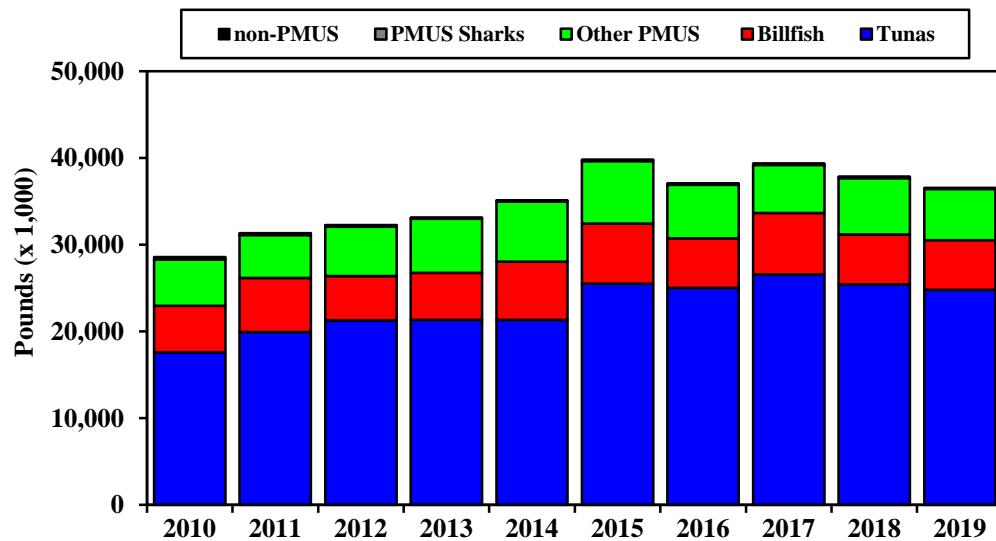
Supporting data shown in Table A-1.

Figure 2. Total commercial pelagic catch by gear type, 2010-2019.
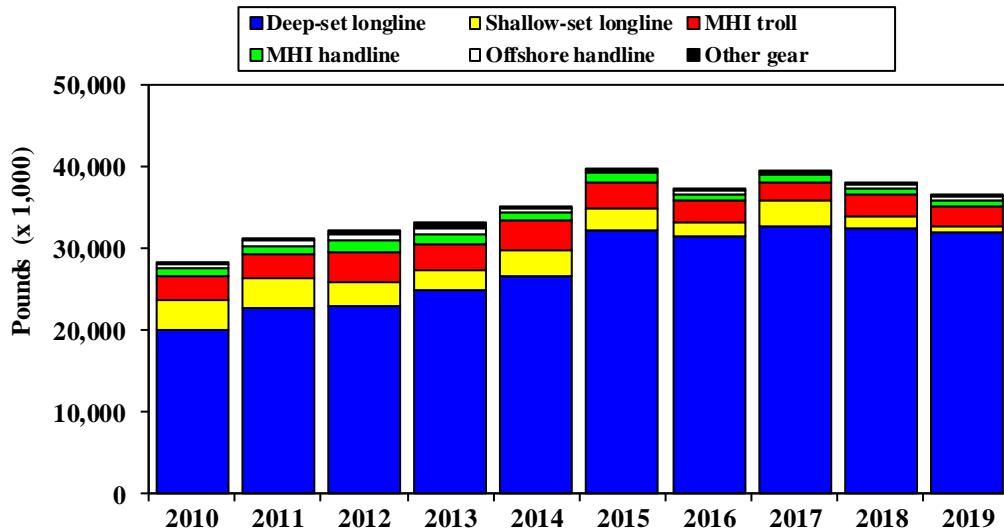
Supporting data shown in

Table **A-2**.

Figure 3. Hawai`i commercial tuna catch by gear type, 2010-2019.
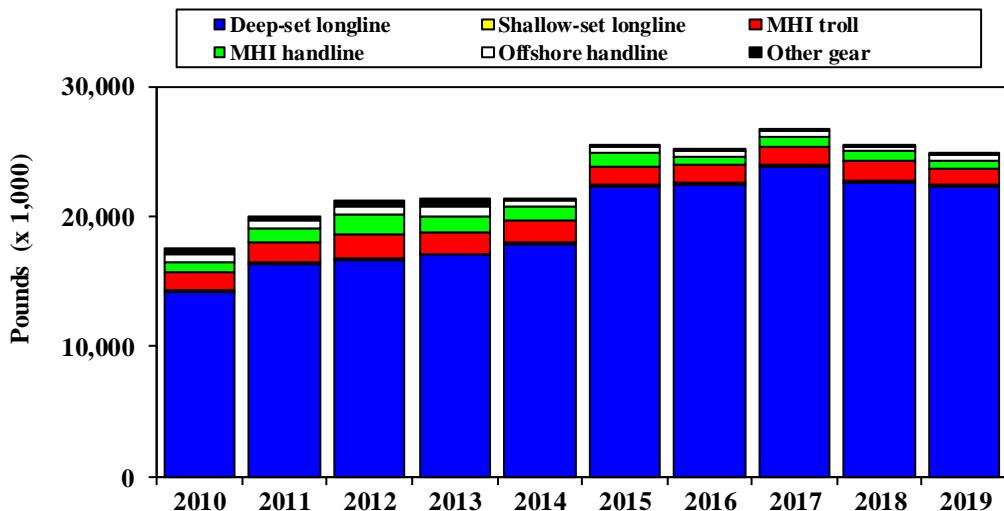
Supporting data shown in Table A-3.

Figure 4. Species composition of the tuna catch, 2010-2019.
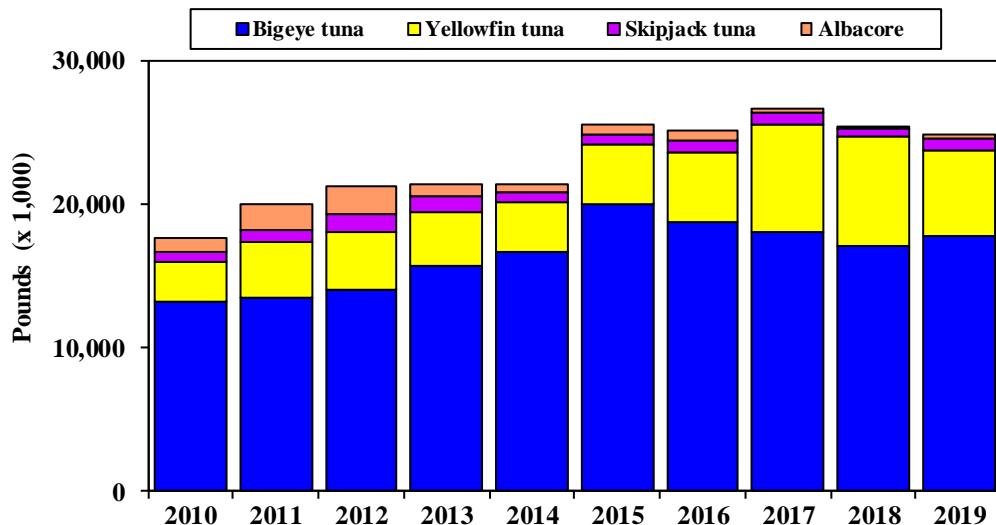
Supporting data shown in

Table **A-4**.

Figure 5. Hawai`i bigeye tuna catch by gear type, 2010-2019.
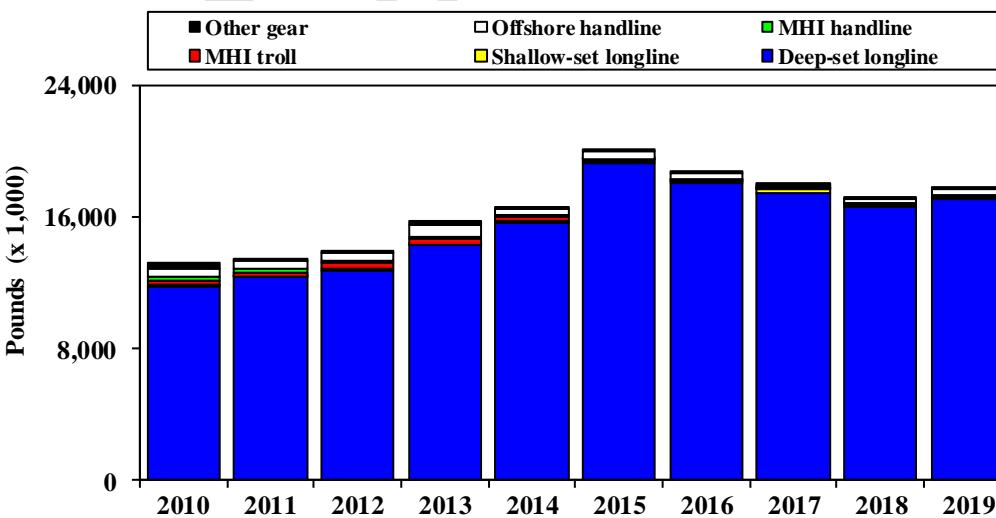
Supporting data shown in Table A-5.

Figure 6. Hawai`i yellowfin tuna catch by gear type, 2010-2019.
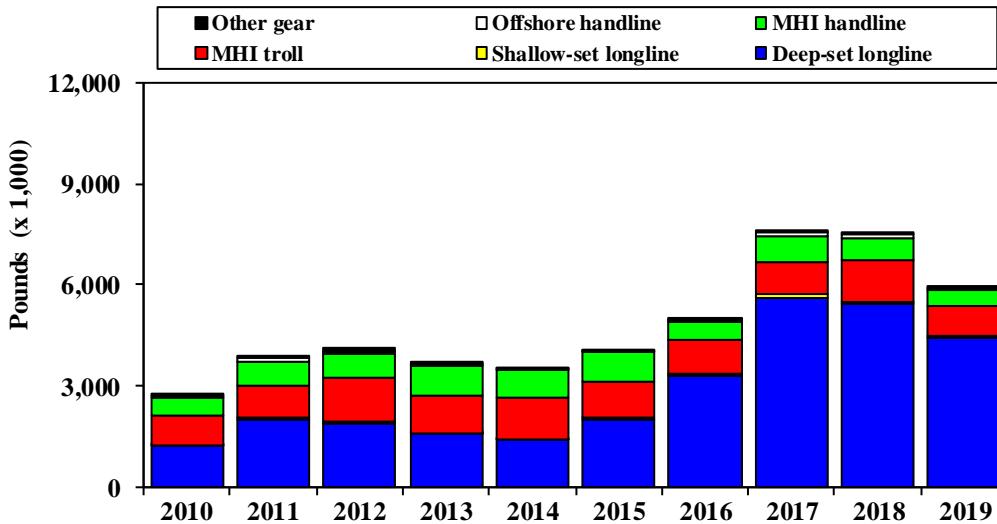
Supporting data shown in

Table **A-6**.

Figure 7. Hawai`i skipjack tuna catch by gear type, 2010-2019.
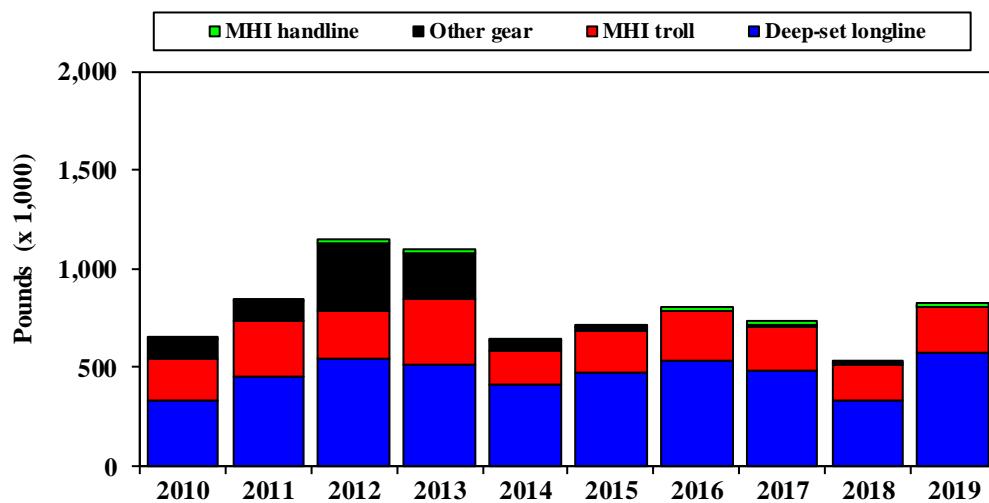
Supporting data shown in Table A-7.

Figure 8. Hawai`i albacore catch by gear type, 2010-2019.
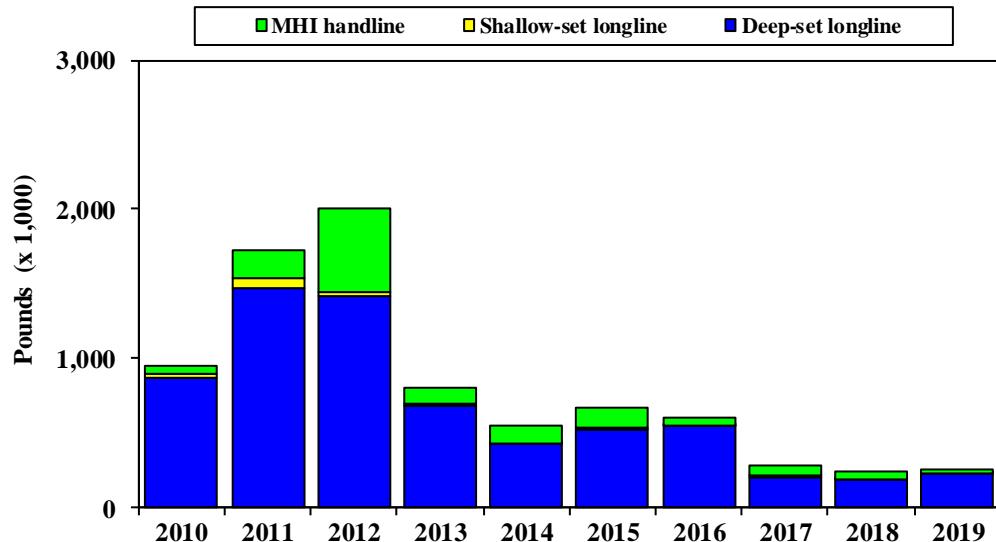
Supporting data shown in

Table **A-8**.

Figure 9. Hawai`i commercial billfish catch by gear type, 2010-2019.
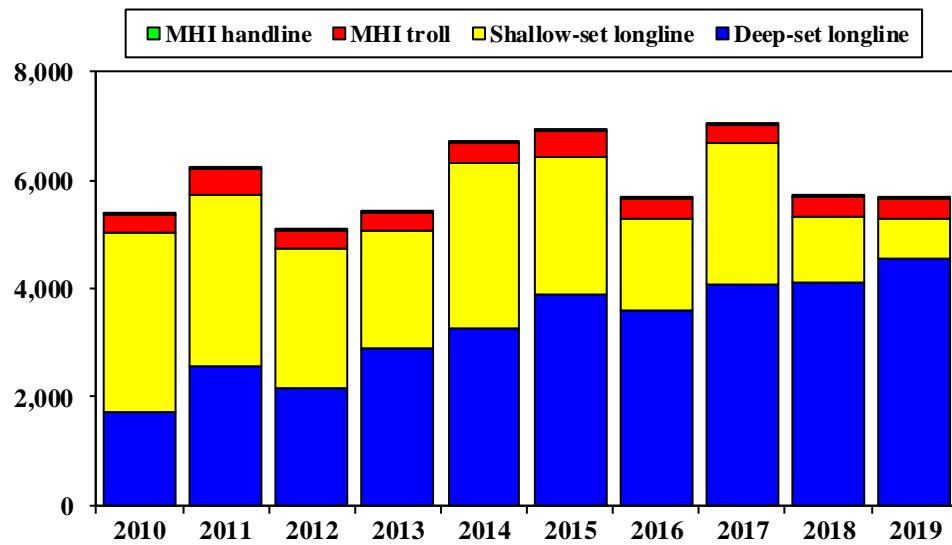
Supporting data shown in

Table **A-9**.

Figure 10. Species composition of the billfish catch, 2010-2019.
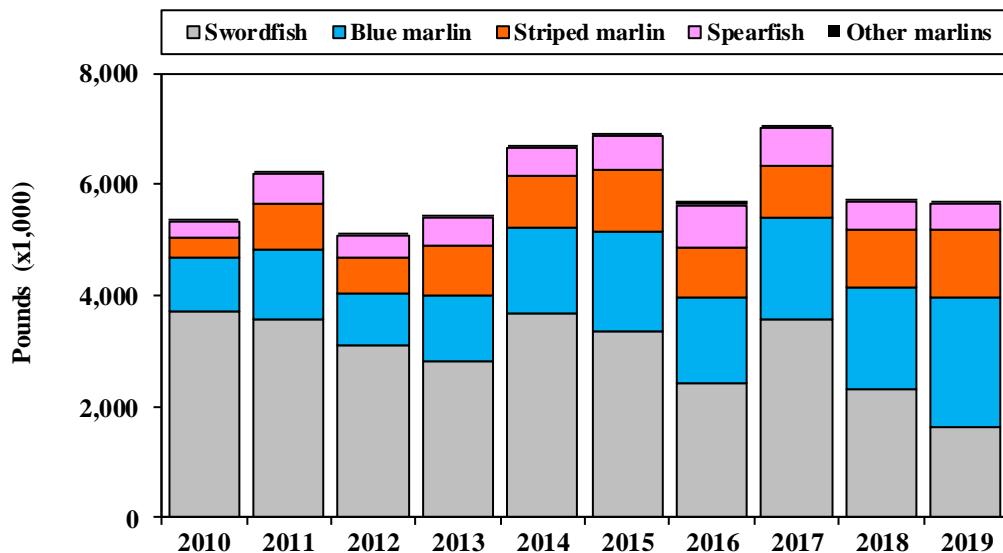
Supporting data shown in

Table **A-10**.

Figure 11. Hawai`i swordfish catch by gear type, 2010-2019.
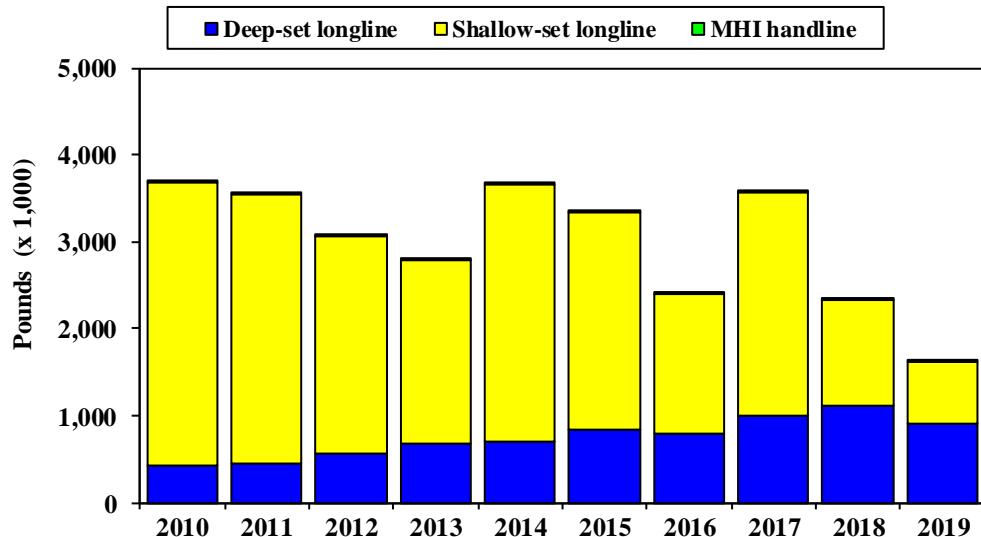
Supporting data shown in Table A-11.

Figure 12. Hawai`i blue marlin catch by gear type, 2010-2019.
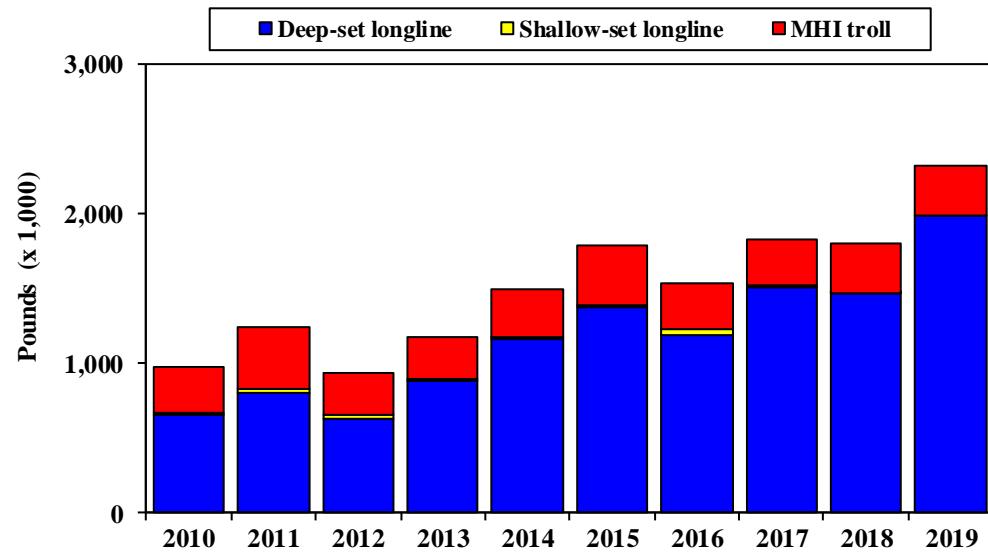
Supporting data shown in

Table **A-12**.

Figure 13. Hawai`i striped marlin catch by gear type, 2010-2019.
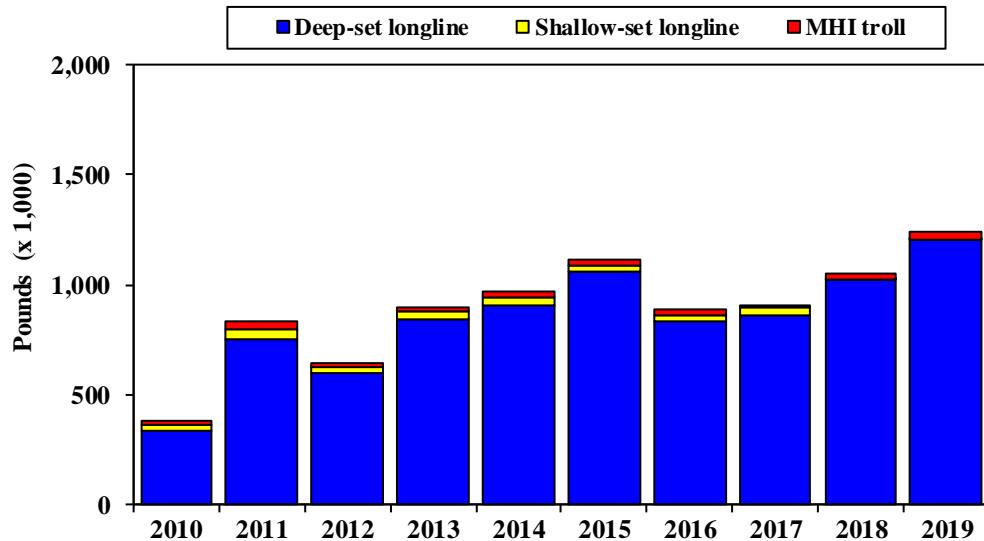
Supporting data shown in Table A-13.

Figure 14. Hawai`i commercial catch of other PMUS by gear type, 2010-2019.
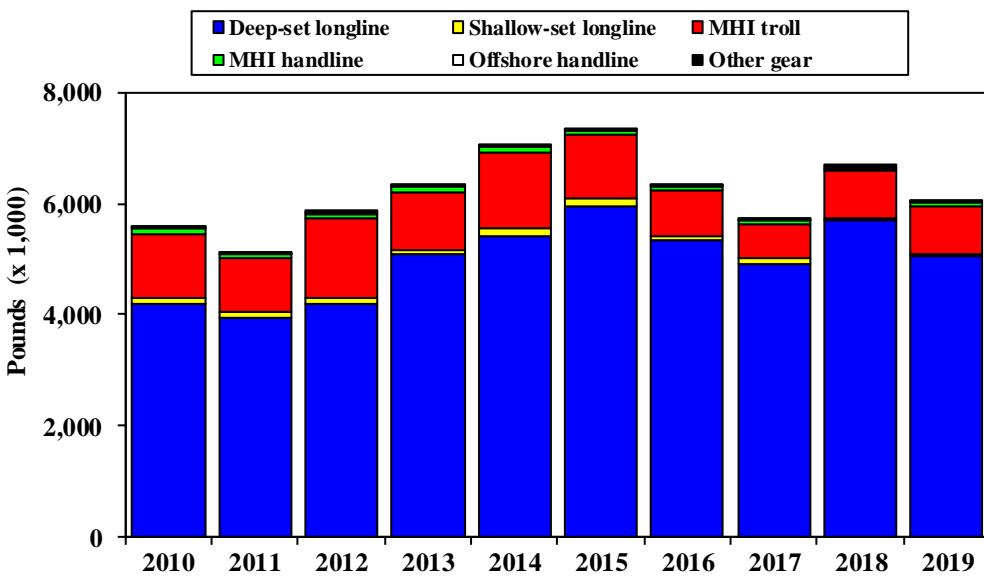
Supporting data shown in

Table **A-14**.

Figure 15. Species composition of other PMUS catch, 2010-2019.
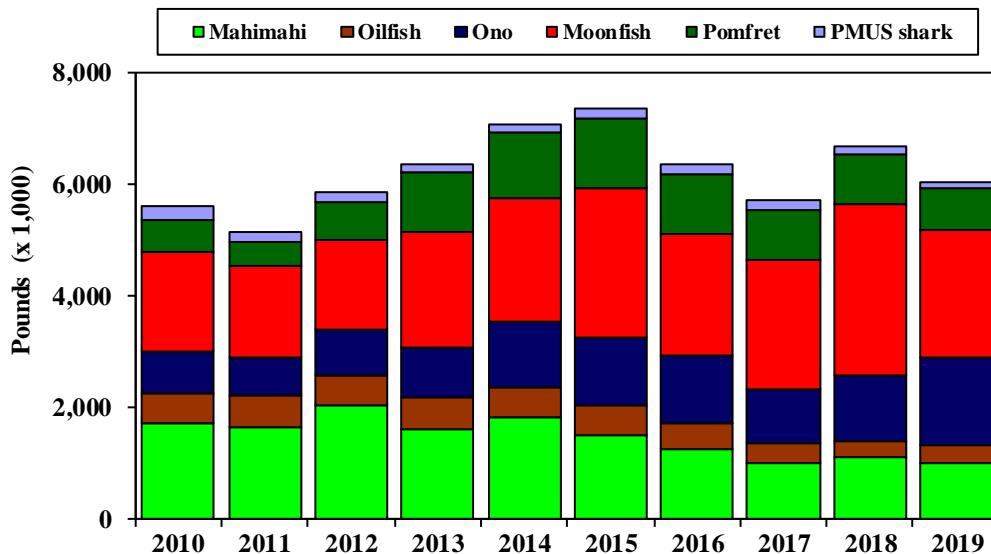
Supporting data shown in Table A-15.

Figure 16. Hawai`i moonfish catch by gear type, 2010-2019.
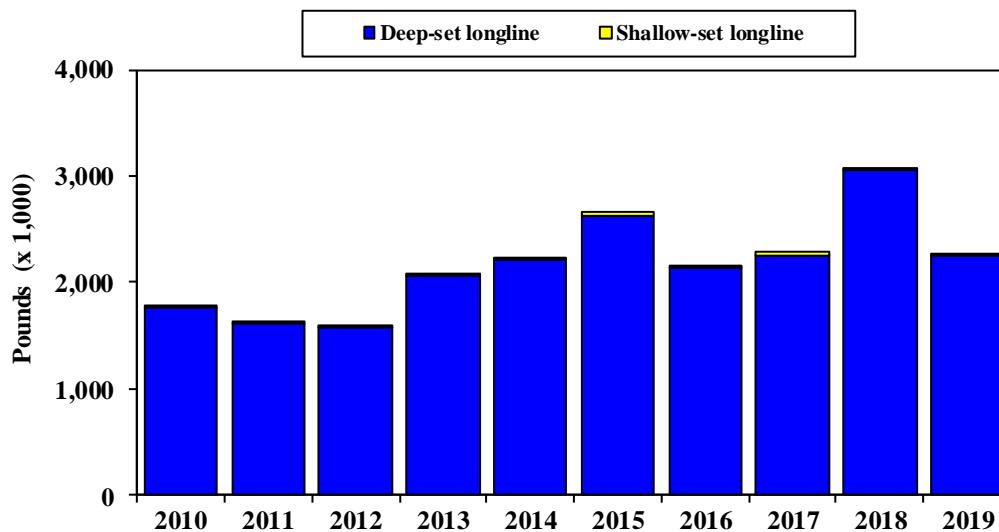
Supporting data shown in

Table **A-16**.

Figure 17. Hawai`i mahimahi catch by gear type, 2010-2019.
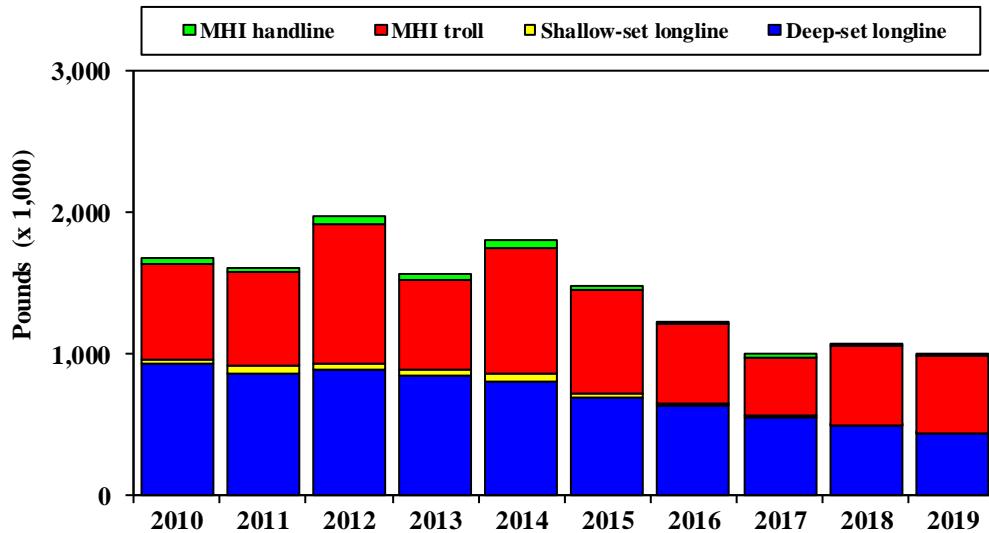
Supporting data shown in Table A-17.

Figure 18. Hawai`i ono (wahoo) catch by gear type, 2010-2019.
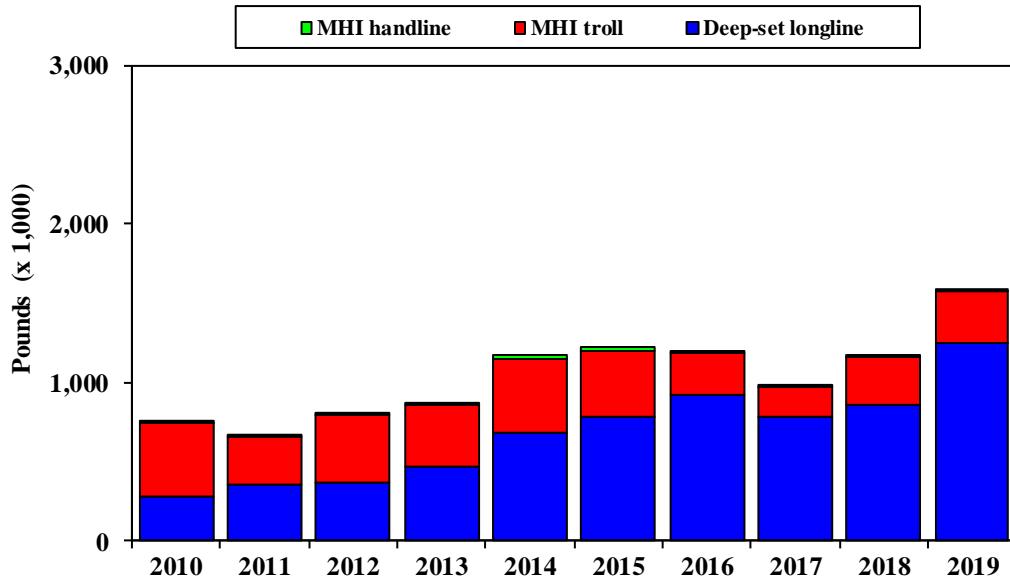
Supporting data shown in

Table **A-18**.

Figure 19. Hawai`i pomfret catch by gear type, 2010-2019.
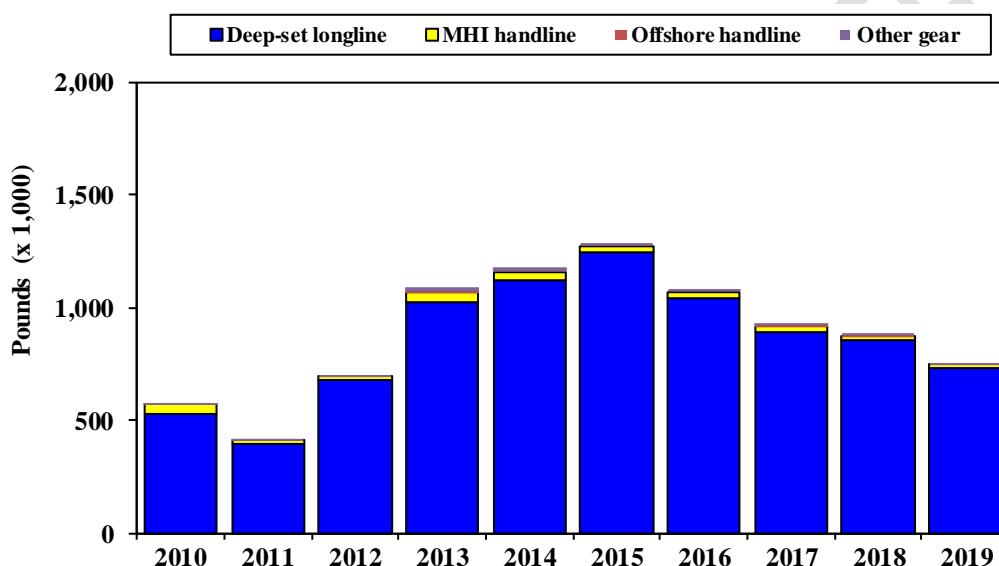

Supporting data shown in Table A-19.

Figure 20. Hawai`i PMUS shark catch by gear type, 2010-2019.
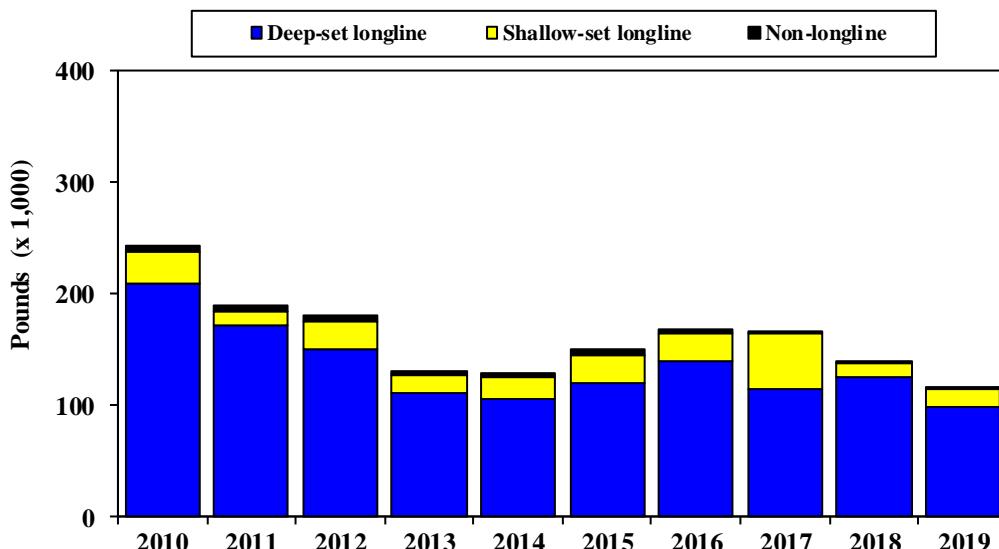
Supporting data shown in

Table **A-20**.

1.1.6 HAWAI`I DEEP-SET LONGLINE FISHERY EFFORT, CATCH, REVENUE AND CPUE

Figure 21. Number of Hawai`i-permitted deep-set longline vessels, trips and sets 2010-2019.
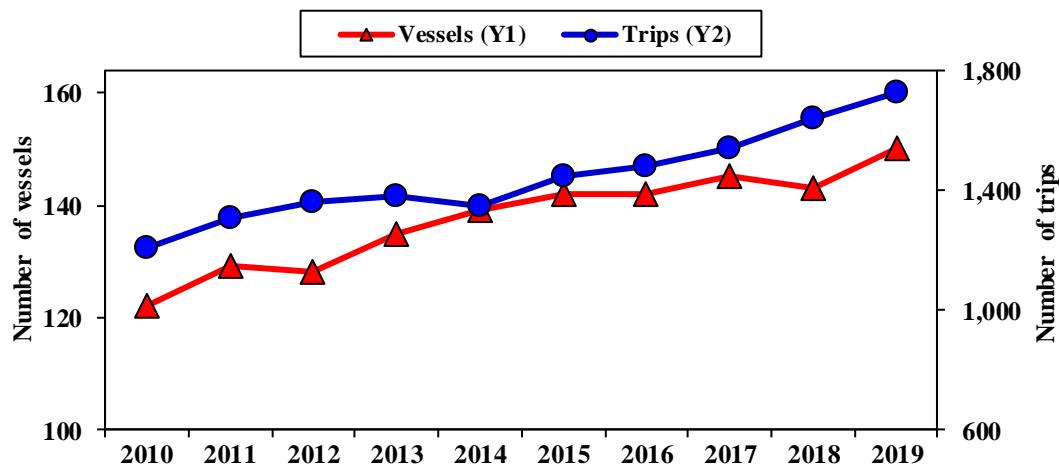
Supporting data shown in Table A-21.

Figure 22. Number of hooks set by the Hawai`i-permitted deep-set longline fishery, 2010-2019.
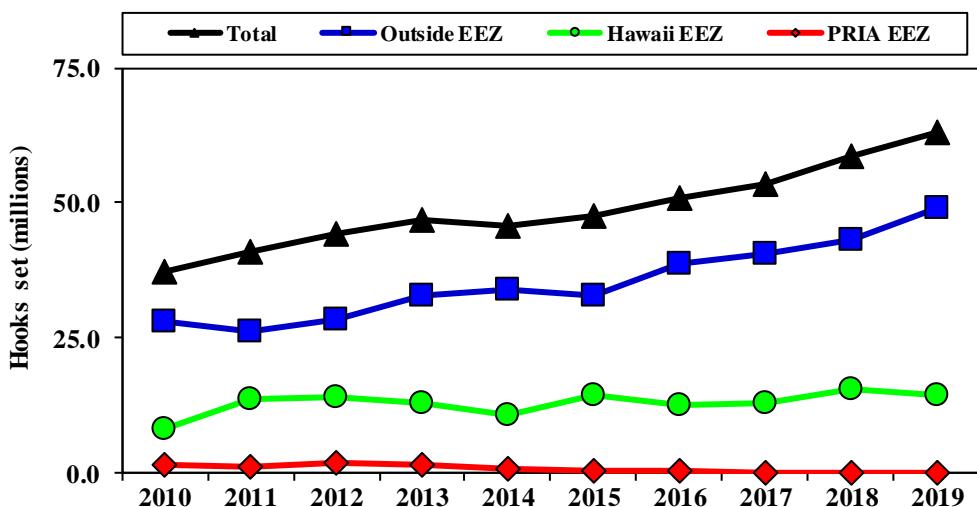
Supporting data shown in

Table **A-22**.

Figure 23. Catch and revenue for the Hawai`i-permitted deep-set longline fishery, 2010-2019.
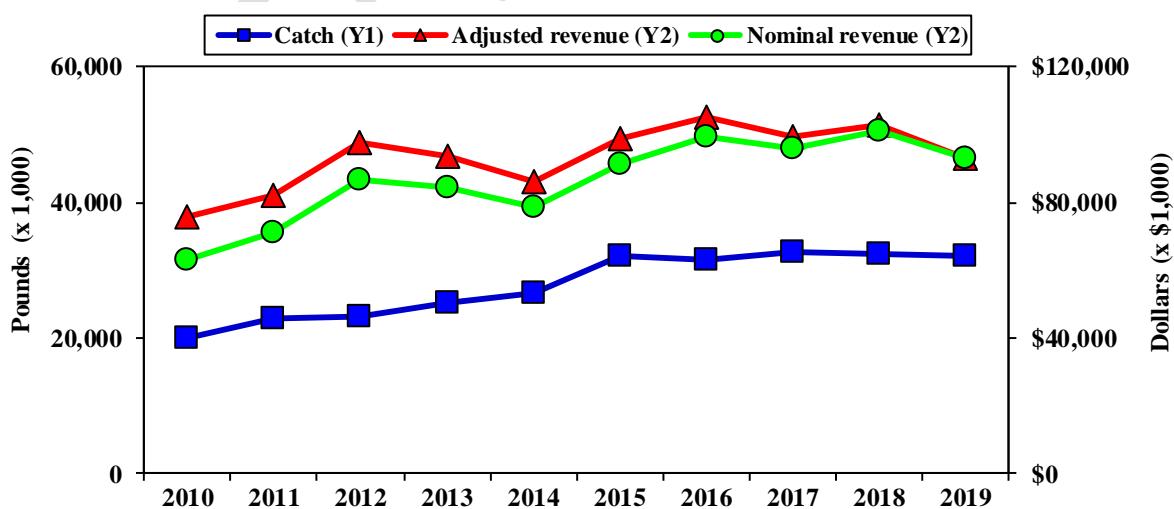
Supporting data shown in Table A-23.

Table 4. Hawai`i-permitted deep-set longline catch (number of fish) by area, 2010-2019.

Year	Tunas			Billfish				Other PMUS				PMUS sharks
	Bigeye tuna	Yellowfin tuna	Albacore	Swordfish	Blue marlin	Striped marlin	Spearfish	Mahimahi	Ono (Wahoo)	Moonfish	Pomfrets	
Hawaii+PRIAs EEZ												
2010	22,868	4,383	3,835	643	548	1,032	1,749	7,162	1,429	2,412	4,988	11,595
2011	44,194	12,884	11,101	873	1,452	7,225	5,885	21,995	2,022	3,133	10,721	22,849
2012	48,995	10,616	6,524	945	768	4,055	3,624	16,298	2,192	3,077	12,128	21,053
2013	49,124	7,700	3,461	922	1,177	5,642	5,434	16,711	2,912	2,963	11,047	20,766
2014	43,433	5,199	1,764	866	1,036	5,020	4,248	8,898	4,090	2,172	10,920	20,527
2015	60,987	11,842	3,089	1,324	2,561	5,945	7,087	15,360	6,388	2,754	21,960	25,395
2016	44,674	13,428	1,656	1,233	1,772	3,880	7,176	9,088	5,718	2,319	15,728	23,506
2017	52,261	24,316	276	822	2,296	4,311	5,506	8,843	5,126	1,794	12,699	27,661
2018	46,391	19,622	292	1,619	2,915	5,387	5,034	10,219	7,203	2,637	13,072	26,587
2019	40,008	12,157	167	1,125	3,850	5,758	3,737	6,054	8,197	2,140	13,193	30,172
Outside EEZ												
2010	105,375	7,642	14,161	2,109	2,515	2,514	6,425	84,806	6,684	16,980	30,883	36,547
2011	107,094	15,931	19,474	2,170	2,793	8,653	9,392	52,293	7,812	14,471	21,706	31,488
2012	103,850	12,049	20,053	2,413	2,296	4,759	7,069	59,114	8,053	13,822	36,977	33,033
2013	138,604	10,299	9,620	3,215	2,563	6,717	8,959	58,991	10,526	20,092	64,928	34,083
2014	168,506	11,205	6,139	3,587	4,475	9,558	11,348	61,135	18,190	22,980	69,240	51,039
2015	165,148	14,957	6,204	4,040	4,868	7,155	10,707	44,778	18,124	26,109	75,303	59,747
2016	175,897	32,830	8,197	3,870	4,445	7,701	16,841	39,401	24,444	22,033	65,882	65,391
2017	172,053	55,300	3,832	4,751	5,720	8,705	15,162	37,297	20,279	22,999	55,005	71,287
2018	172,668	42,110	3,363	4,492	4,643	10,340	10,443	33,912	24,092	30,548	42,875	76,092
2019	183,133	49,847	4,177	3,768	9,075	14,782	12,558	31,445	36,102	22,460	39,805	95,578
All areas												
2010	135,636	13,597	18,766	2,916	3,396	3,674	8,375	92,294	8,736	19,523	37,713	51,144
2011	155,256	31,324	31,500	3,132	4,427	16,252	15,557	74,849	10,451	17,710	33,405	55,894
2012	159,242	27,705	29,652	3,549	3,296	9,097	11,297	77,377	11,421	17,121	51,866	57,140
2013	192,173	18,941	14,516	4,249	3,941	12,530	14,875	76,668	14,221	23,171	78,442	56,808
2014	216,060	17,025	8,345	4,563	5,695	14,804	15,838	70,499	23,030	25,199	81,994	72,846
2015	227,541	26,896	9,339	5,389	7,515	13,121	17,853	60,212	24,686	28,865	97,395	86,106
2016	221,149	46,470	9,853	5,118	6,261	11,588	24,027	48,494	30,217	24,352	81,690	89,091
2017	224,391	79,620	4,108	5,576	8,018	13,019	20,668	46,146	25,426	24,794	67,736	98,986
2018	219,072	61,758	3,655	6,114	7,560	15,727	15,477	44,138	31,303	33,185	55,949	102,799
2019	223,047	62,006	4,344	4,893	12,926	20,535	16,296	37,505	44,331	24,600	53,000	125,808

Figure 24. Tuna CPUE for the Hawai`i-permitted deep-set longline fishery, 2010-2019.
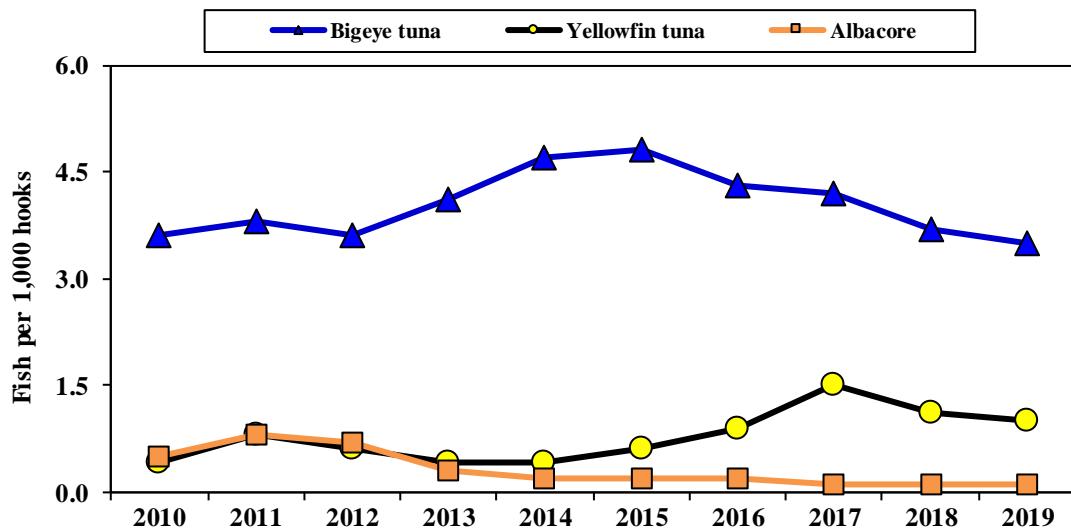
Supporting data shown in

Table **A-24**.

Figure 25. Billfish CPUE for the Hawai`i-permitted deep-set longline fishery, 2010-2019.
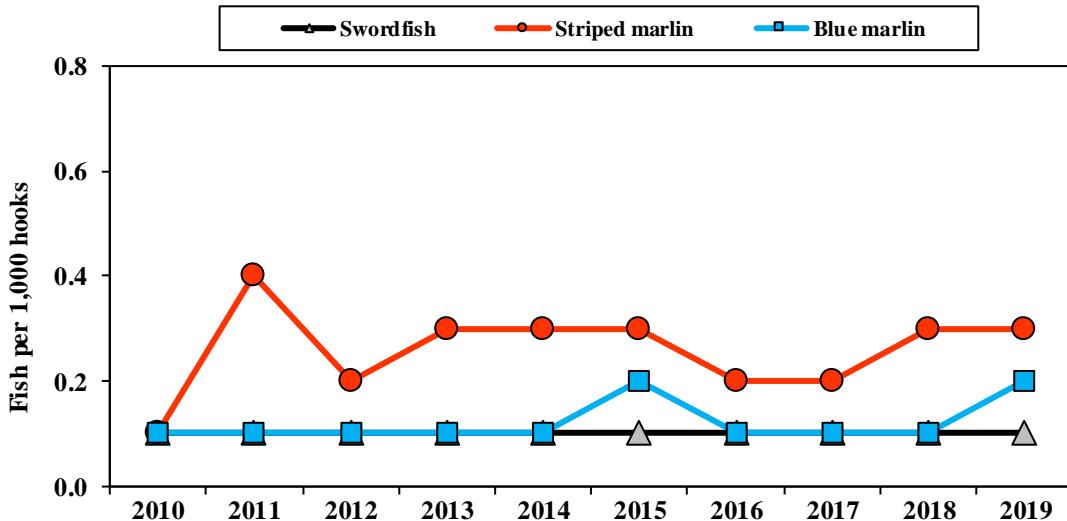
Supporting data shown in Table A-25.

Figure 26. Blue shark CPUE for the Hawai`i-permitted deep-set longline fishery, 2010-2019.
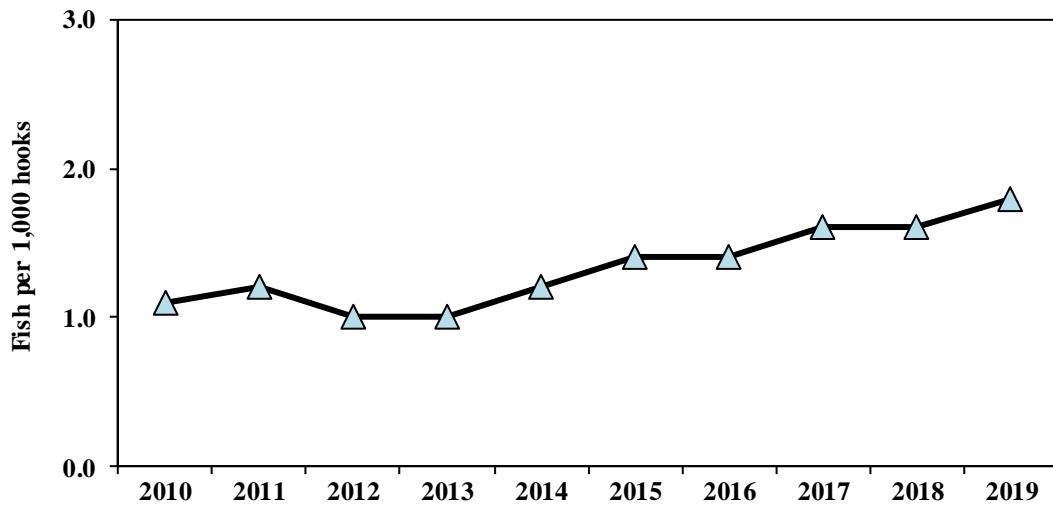
Supporting data shown in

Table **A-26**.

Table 5. Released catch, retained catch, and total catch for the Hawai`i-permitted deep-set longline fishery, 2019.

|	Deep-set longline fishery			
	Released catch	Percent released	Retained catch	Total Catch
Tuna				
Albacore	91	2.1	4,253	4,344
Bigeye tuna	5,949	2.7	217,098	223,047
Bluefin tuna	0	0.0	14	14
Skipjack tuna	374	1.1	32,678	33,052
Yellowfin tuna	1,850	3.0	60,156	62,006
Other tuna	0	0.0	0	0
Total tunas	**8,264**	**2.6**	**314,199**	**322,463**
Billfish				
Swordfish	155	3.2	4,738	4,893
Blue marlin	153	1.2	12,773	12,926
Striped marlin	628	3.1	19,907	20,535
Spearfish	410	2.5	15,886	16,296
Other marlin	26	1.8	1,397	1,423
Total billfish	1,372	2.4	54,701	56,073
Other PMUS				
Mahimahi	425	1.1	37,080	37,505
Wahoo	222	0.5	44,109	44,331
Moonfish	237	1.0	24,363	24,600
Oilfish	2,597	15.7	13,934	16,531
Pomfret	439	0.8	52,561	53,000
Total other PMUS	**3,920**	**2.2**	**172,047**	**175,967**
Non-PMUS fish	**5,558**	**96.8**	**185**	**5,743**
Total non-shark	**19,114**	**3.4**	**541,132**	**560,246**
PMUS Sharks				
Blue shark	111,322	100.0	2	111,324
Mako shark	4,423	90.5	462	4,885
Thresher shark	8,690	99.4	53	8,743
Oceanic Whitetip shark	493	100.0	0	493
Silky shark	363	100.0	0	363
Total PMUS sharks	**125,291**	**99.6**	**517**	**125,808**
Non-PMUS sharks	**272**	**100.0**	**0**	**272**
Grand Total	**144,677**	**21.1**	**541,649**	**686,326**

Table 6. Average weight (lbs) of the catch by the Hawai`i-permitted deep-set longline fishery, 2010-2019.

| | Hawaii-permitted deep-set longline fishery | | | | | | | | | | | | | | | | | |
| | Tunas | | | | | Billfish | | | | | | Other PMUS | | | | | Sharks | |
Year	Bigeye tuna	Yellowfin tuna	Albacore	Skipjack tuna	Bluefin Tuna	Swordfish	Striped marlin	Blue marlin	Spearfish	Sailfish	Black marlin	Mahimahi	Ono (Wahoo)	Moonfish	Pomfrets	Oilfish	Mako shark	Thresher shark
2010	88	90	47	19	235	172	93	202	31	56	189	10	32	91	14	15	203	182
2011	81	67	47	20	235	172	47	188	33	58	189	12	34	91	12	16	186	172
2012	82	71	48	16	276	172	66	200	32	57	186	12	32	92	14	16	198	196
2013	75	84	47	16	235	183	68	225	31	62	189	11	33	89	13	18	196	173
2014	73	84	51	17		158	62	205	30	58	258	12	30	88	14	17	200	214
2015	85	74	53	18	235	165	81	185	33	59	219	12	31	91	13	18	194	219
2016	83	73	55	17	250	165	73	196	31	51	242	13	31	88	13	19	179	183
2017	79	72	49	19	250	190	67	188	32	63	286	12	31	92	13	20	181	200
2018	78	89	52	19	276	189	66	197	32	64	185	11	28	93	15	22	182	184
2019	79	74	53	18	269	189	61	156	28	29	182	12	28	92	14	22	190	190
Average	80.3	77.8	50.2	17.9	251.2	175.5	68.4	194.2	31.3	55.7	212.5	11.7	31.0	90.7	13.5	18.3	190.9	191.3
SD	4.5	8.2	3.0	1.4	18.0	11.5	12.3	17.6	1.5	10.1	37.2	0.8	1.9	1.8	0.8	2.5	8.6	16.0

1.1.7 HAWAI`I SHALLOW-SET LONGLINE FISHERY EFFORT, CATCH, REVENUE AND CPUE

Figure 27. Number of Hawai`i-permitted shallow-set longline vessels, trips and sets, 2010-2019.
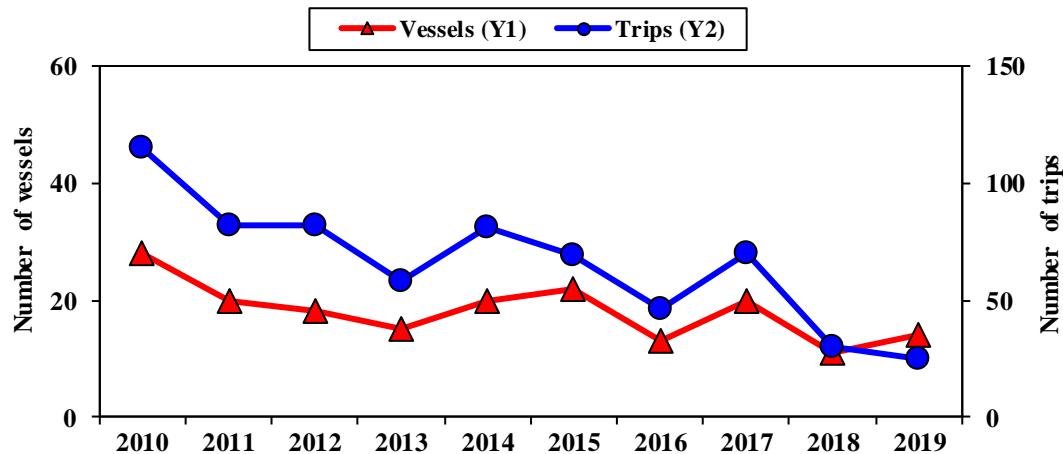
Supporting data shown in Table A-27.

Figure 28. Number of hooks set by the Hawai`i-permitted shallow-set longline fishery, 2010-2019.
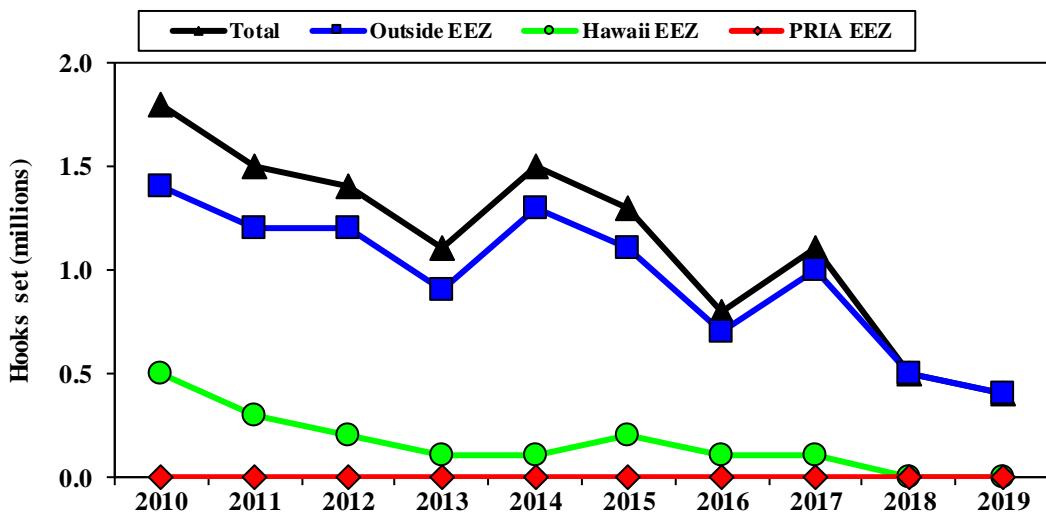
Supporting data shown in

Table A-28.

Figure 29. Catch and revenue for the Hawai`i-permitted shallow-set longline fishery, 2010-2019.
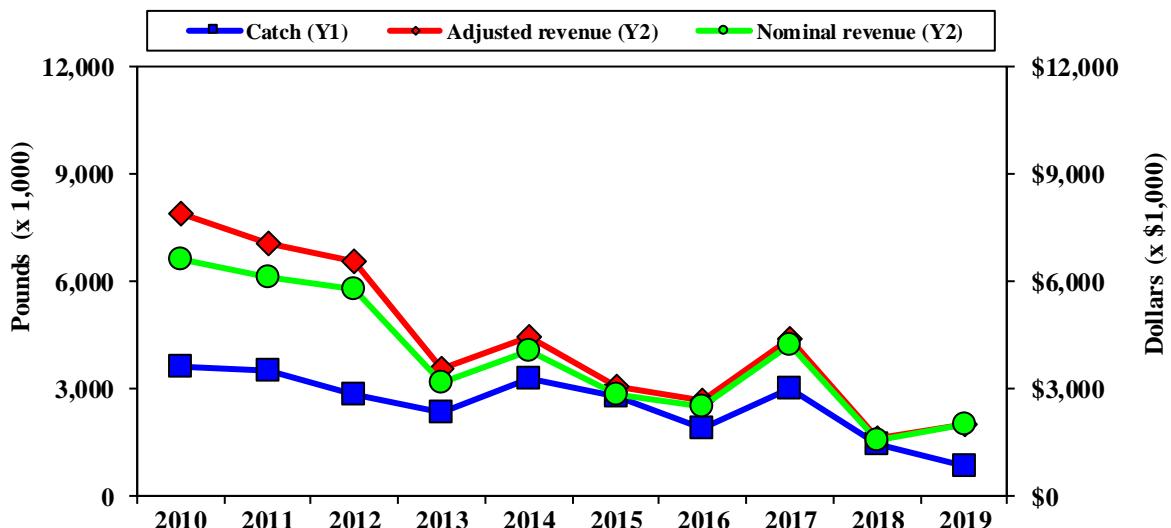
Supporting data shown in Table A-29.

Table 7. Hawai`i-permitted shallow-set longline catch (number of fish) by area, 2010-2019.

| Year	Tunas			Billfish				Other PMUS				PMUS sharks
	Bigeye tuna	Yellowfin tuna	Albacore	Swordfish	Blue marlin	Striped marlin	Spearfish	Mahimahi	Ono (Wahoo)	Moonfish	Pomfrets	
Hawaii+PRIA EEZ												
2010	218	102	18	3,491	42	133	32	783	57	4	20	2,157
2011	209	91	18	2,097	85	267	77	1,506	10	4	4	1,131
2012	66	55	12	2,230	61	163	41	836	23	1	1	914
2013	93	76	5	1,507	43	298	32	1,679	8	0	3	819
2014	27	57	1	1,689	54	137	37	968	19	0	4	1,280
2015	40	36	1	2,001	23	111	40	804	5	0	3	1,537
2016	20	47	5	1,157	68	104	45	69	19	0	2	1,142
2017	12	31	1	779	32	88	38	38	10	0	2	580
2018	12	11	0	58	1	1	0	12	1	0	0	22
2019												
Outside EEZ												
2010	1,367	103	1,902	13,636	22	122	38	1,819	15	213	57	16,800
2011	851	228	2,928	14,083	30	255	104	4,892	24	202	98	7,808
2012	774	226	1,137	12,008	41	122	101	3,616	17	283	347	6,064
2013	359	126	556	9,222	20	92	84	1,995	22	241	129	5,442
2014	810	124	662	13,646	21	231	134	3,321	25	515	228	10,173
2015	1,305	103	305	12,988	26	155	66	1,822	11	645	121	12,489
2016	921	254	54	8,573	27	225	115	1,065	20	271	16	10,737
2017	1,518	1,522	286	13,141	26	323	122	1,263	64	431	37	10,268
2018	1,279	767	137	6,052	4	61	44	627	25	172	24	2,887
2019	874	331	81	3,435	0	12	18	247	3	31	5	3,195
All areas												
2010	1,585	205	1,920	17,127	64	255	70	2,602	72	217	77	18,957
2011	1,060	319	2,946	16,180	115	522	181	6,398	34	206	102	8,939
2012	840	281	1,149	14,238	102	285	142	4,452	40	284	348	6,978
2013	452	202	561	10,729	63	390	116	3,674	30	241	132	6,261
2014	837	181	664	15,449	75	368	171	4,289	44	535	233	11,632
2015	1,345	139	306	14,989	49	266	106	2,626	16	645	124	14,026
2016	941	301	59	9,730	95	329	160	1,134	39	271	18	11,879
2017	1,530	1,553	287	13,928	58	411	160	1,301	74	431	39	10,852
2018	1,291	778	137	6,110	5	62	44	639	26	172	24	2,909
2019	874	331	81	3,435	0	12	18	247	3	31	5	3,195

Figure 30. Tuna CPUE for the Hawai`i-permitted shallow-set longline fishery, 2010-2019.
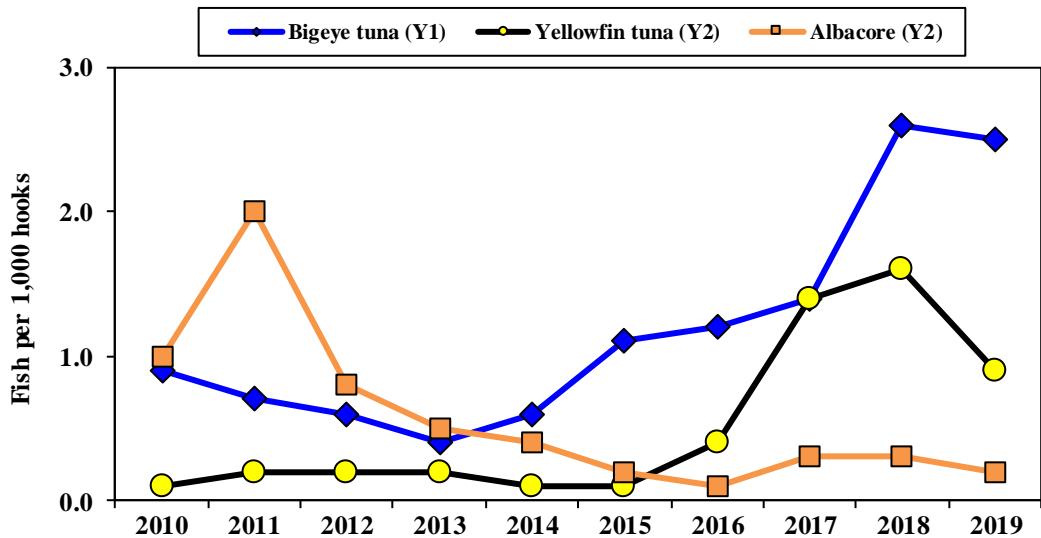
Supporting data shown in

Table **A-30**.

Figure 31. Billfish CPUE for the Hawai`i-permitted shallow-set longline fishery, 2010-2019.
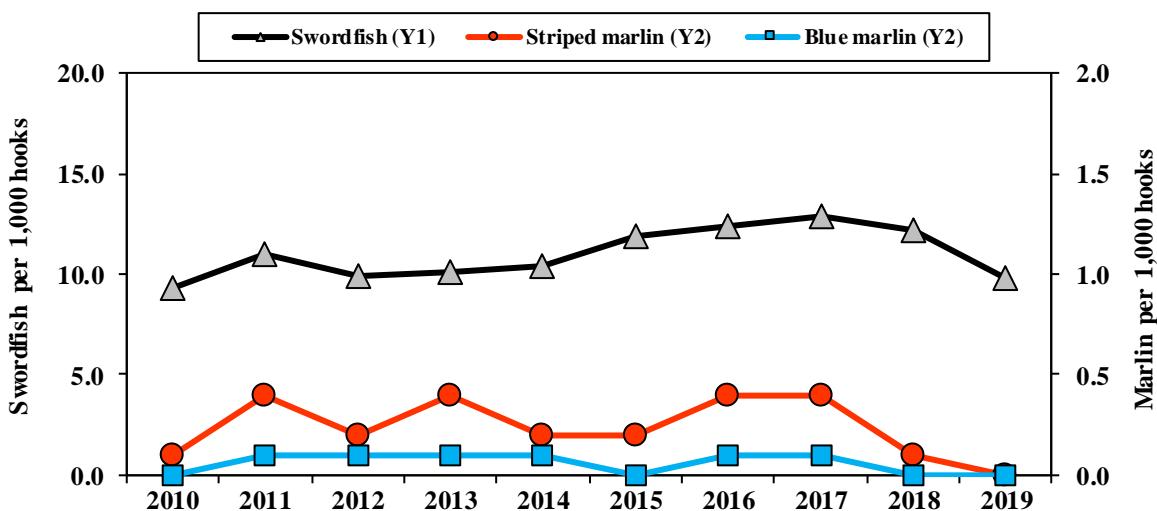
Supporting data shown in Table A-31. Supporting Data for Figure 30. Tuna CPUE for the Hawai`i-permitted shallow-set longline fishery, 2010-2019.

Figure 32. Blue shark CPUE for the Hawai`i-permitted shallow-set longline fishery, 2010-2019.
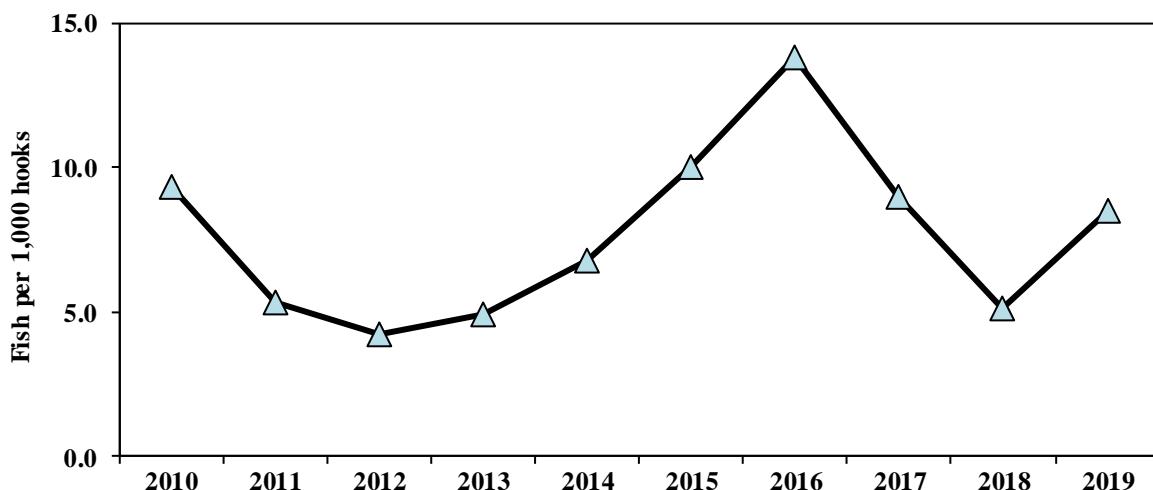
Supporting data shown in

Table **A-31**.

Table 8. Released catch, retained catch, and total catch for the Hawai`i-permitted shallow-set longline fishery, 2019.

	Shallow-set longline fishery			
	Released catch	Percent released	Retained catch	Total Catch
Tuna				
Albacore	0	0.0	81	81
Bigeye tuna	36	4.1	838	874
Bluefin tuna	0	0.0	0	0
Skipjack tuna	4	20.0	16	20
Yellowfin tuna	4	1.2	327	331
Other tuna	0	0.0	0	0
Total tunas	**44**	**3.4**	**1,262**	**1,306**
Billfish				
Swordfish	118	3.4	3,317	3,435
Blue marlin	0	0.0	0	0
Striped marlin	3	25.0	9	12
Spearfish	5	27.8	13	18
Other marlin	0	0.0	3	3
Total billfish	**126**	**3.6**	**3,342**	**3,468**
Other PMUS				
Mahimahi	1	0.4	246	247
Wahoo	0	0.0	3	3
Moonfish	0	0.0	31	31
Oilfish	18	32.1	38	56
Pomfret	0	0.0	5	5
Total other PMUS	**19**	**5.6**	**323**	**342**
Non-PMUS fish	**0**	**0.0**	**0**	**0**
Total non-shark	**189**	**3.7**	**4,927**	**5,116**
PMUS Sharks				
Blue shark	2,993	100.0	0	2,993
Mako shark	99	50.3	98	197
Thresher shark	5	100.0	0	5
Oceanic Whitetip shark	0	0.0	0	0
Silky shark	0	0.0	0	0
Total PMUS sharks	**3,097**	**96.9**	**98**	**3,195**
Non-PMUS sharks	0	0.0	0	0
Grand Total	**3,286**	**39.5**	**5,025**	**8,311**

Table 9. Average weight (lbs) of the catch by the Hawai`i-permitted shallow-set longline fisheries, 2010-2019.

| | Hawaii-permitted shallow-set longline fishery | | | | | | | | | | | | | | | | | |
| | Tunas | | | | | Billfish | | | | | | Other PMUS | | | | | Sharks | |
Year	Bigeye tuna	Yellowfin tuna	Albacore	Skipjack tuna	Bluefin Tuna	Swordfish	Striped marlin	Blue marlin	Spearfish	Sailfish	Black marlin	Mahimahi	Ono (Wahoo)	Moonfish	Pomfrets	Oilfish	Mako shark	Thresher shark
2010	95	115	27	15	173	200	111	282	37	54		13	49	73	17	18	154	321
2011	110	121	30	18		211	91	246	37	52		11	38	57	17	17	185	200
2012	99	109	27	16	173	198	98	259	34			12	37	80	14	16	185	277
2013	107	111	27	17	173	216	92	281	34			12	42	82	15	23	177	
2014	87	131	24	14	268	212	91	278	36	52		12	42	71	16	24	202	243
2015	79	120	22	16		184	97	292	37	52		12	39	76	13	22	150	243
2016	86	103	34	16		179	97	304	39	52		14	33	83	13	21	215	243
2017	98	94	35	18	173	200	102	259	39	52		12	36	83	14	20	179	243
2018	89	98	36	15	173	214	94	413	36			10	39	84	14	25	184	243
2019	72	92	35	17		217	126		36	52		9	39	83	16	21	165	
Average	92.2	109.4	29.7	16.2	188.8	203.1	99.9	290.4	36.5	52.3	---	11.7	39.4	77.2	14.9	20.7	179.6	251.6
SD	11.9	12.7	5.0	1.3	38.8	13.4	11.0	49.3	1.7	0.8	---	1.4	4.3	8.5	1.5	3.0	20.0	34.8

1.1.8   MHI TROLL FISHERY EFFORT, CATCH, REVENUE AND CPUE

Figure 33. Number of MHI troll fishers and days fished, 2010-2019.
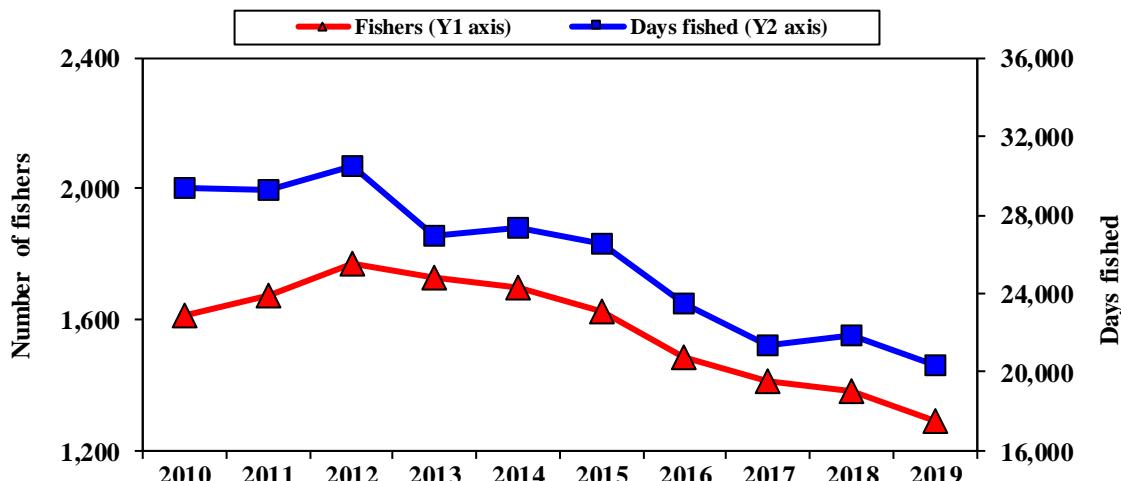
Supporting data shown in Table A-32.

Figure 34. Catch and revenue for the MHI troll fishery, 2010-2019.
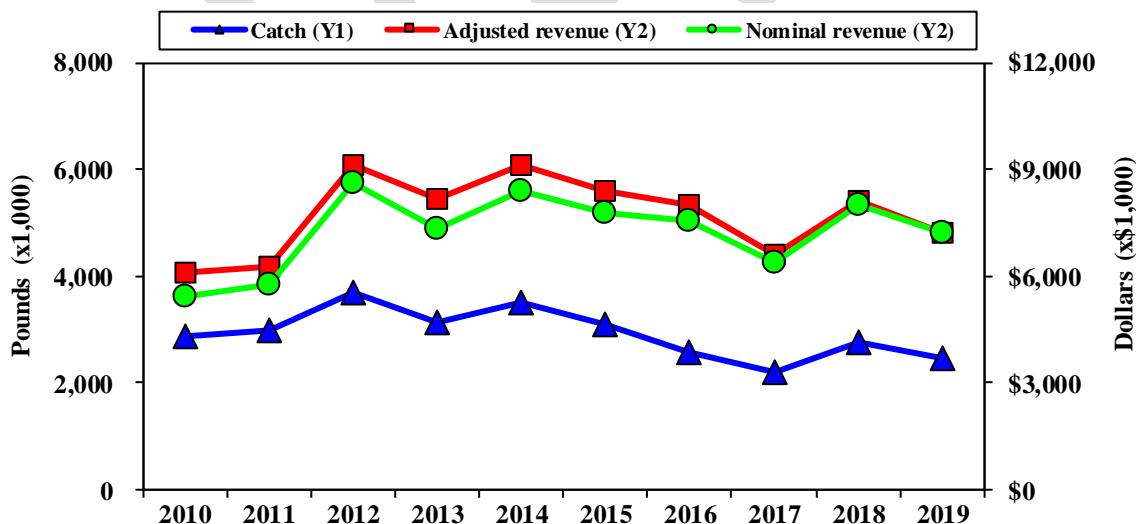
Supporting data shown in

Table A-.

Figure 35. Tuna CPUE for the MHI troll fishery, 2010-2019.
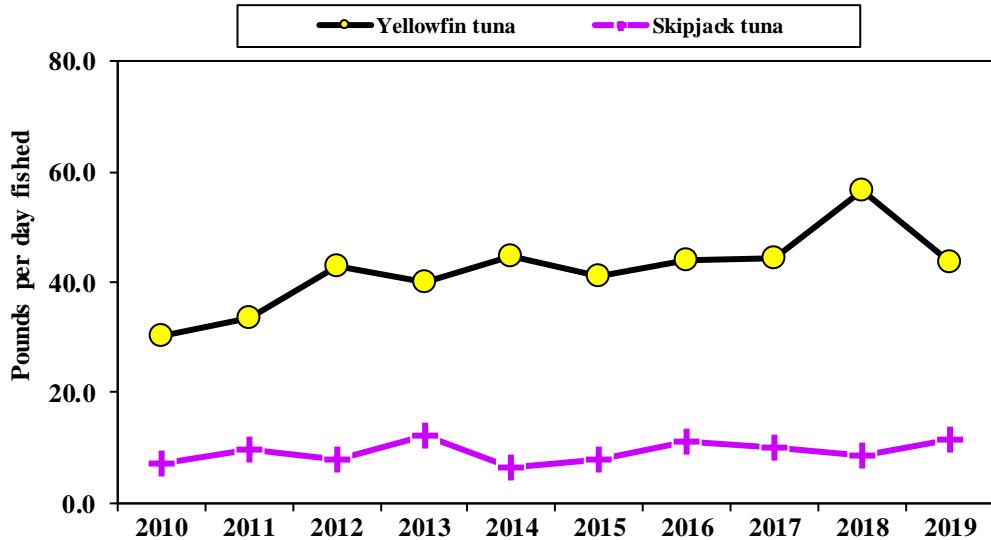
Supporting data shown in Table A-33.

Figure 36. Marlin CPUE for the MHI troll fishery, 2010-2019.
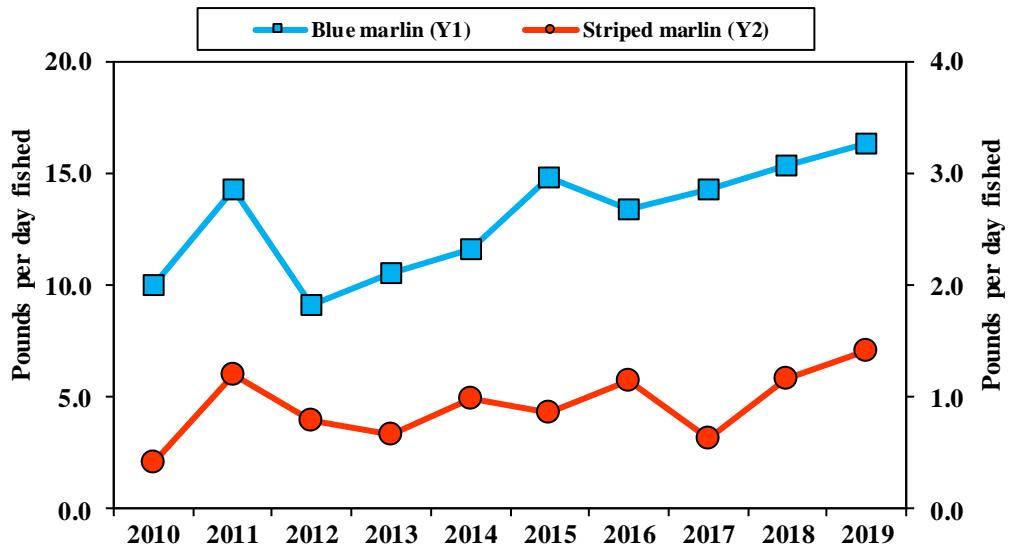
Supporting data shown in

Table A-34.

Figure 37. Mahimahi and Ono CPUE for the MHI troll fishery, 2010-2019.
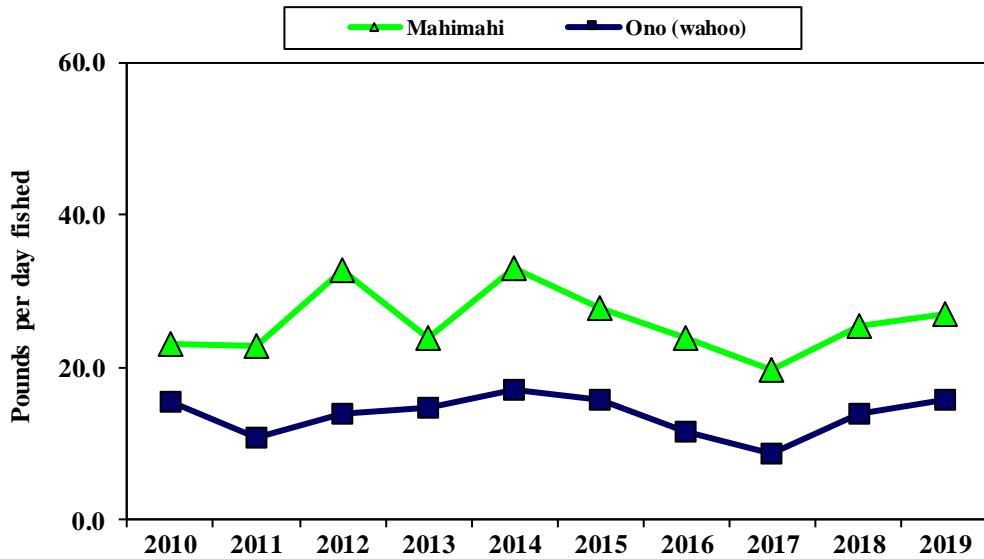
Supporting data shown in Table A-35.

1.1.9 MHI HANDLINE FISHERY EFFORT, CATCH, REVENUE AND CPUE

Figure 38. Number of MHI handline fishers and days fished, 2010-2019.
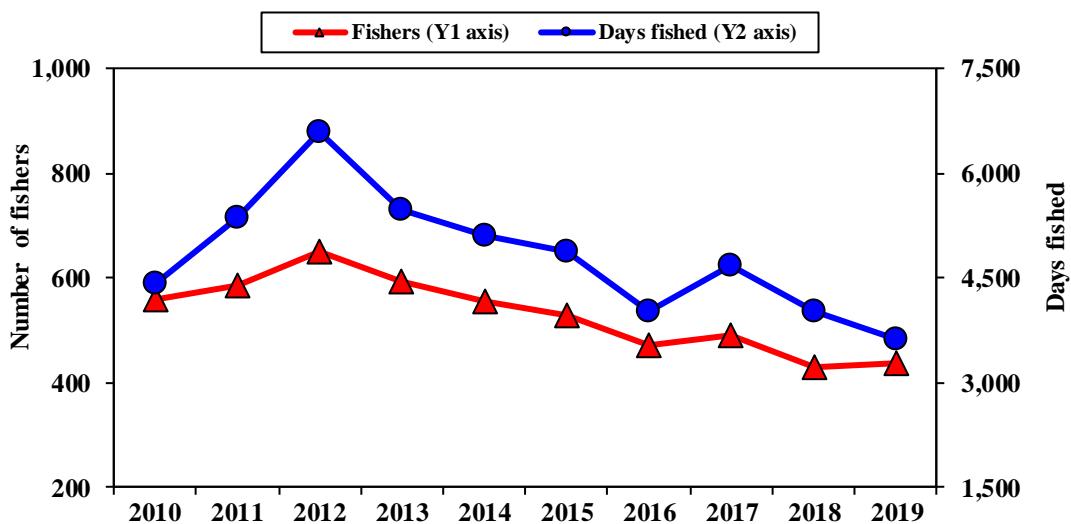
Supporting data shown in

Table **A-36**.

Figure 39. Catch and revenue for the MHI handline fishery, 2010-2019.
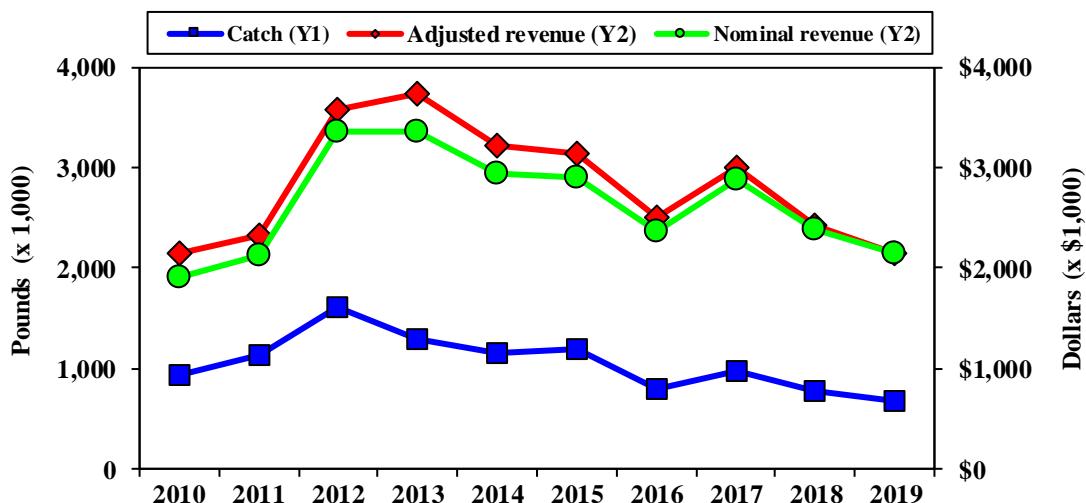
Supporting data shown in Table A-37.

Figure 40. Tuna CPUE for the MHI handline fishery, 2010-2019.
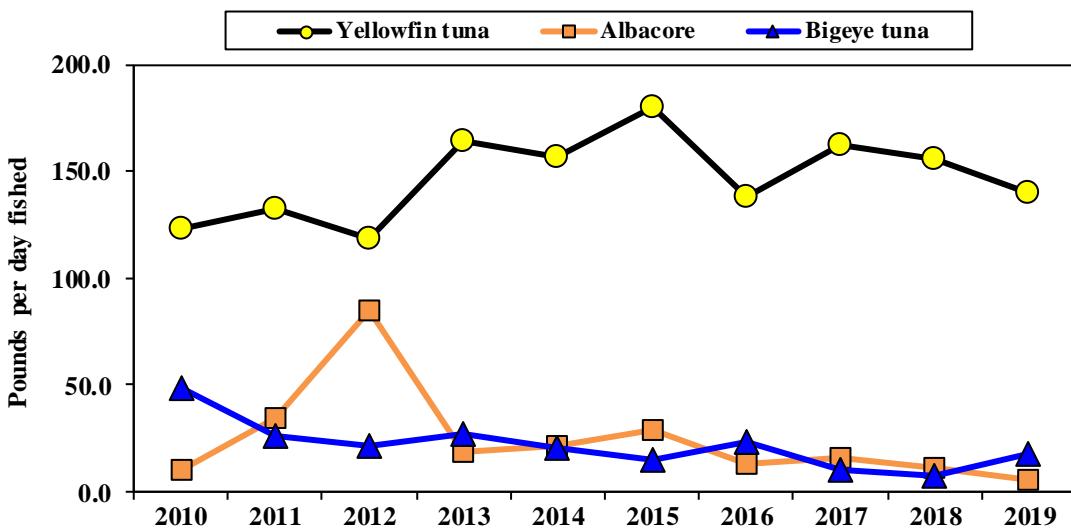
Table A-40. Supporting Data for Figure 40. **Tuna CPUE for the MHI handline fishery, 2010-2019.**

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1.1.10 OFFSHORE HANDLINE FISHERY EFFORT, CATCH, REVENUE AND CPUE

Figure 41. Number of offshore handline fishers and days fished, 2010-2019.
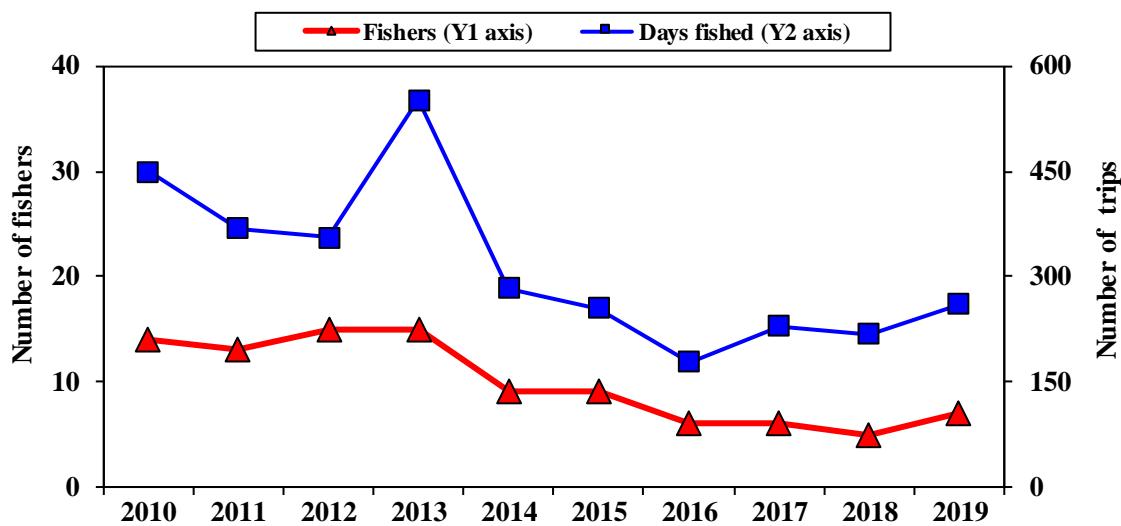
Supporting data shown in Table A-41.

Figure 42. Catch and revenue for the offshore tuna handline fishery, 2010-2019.
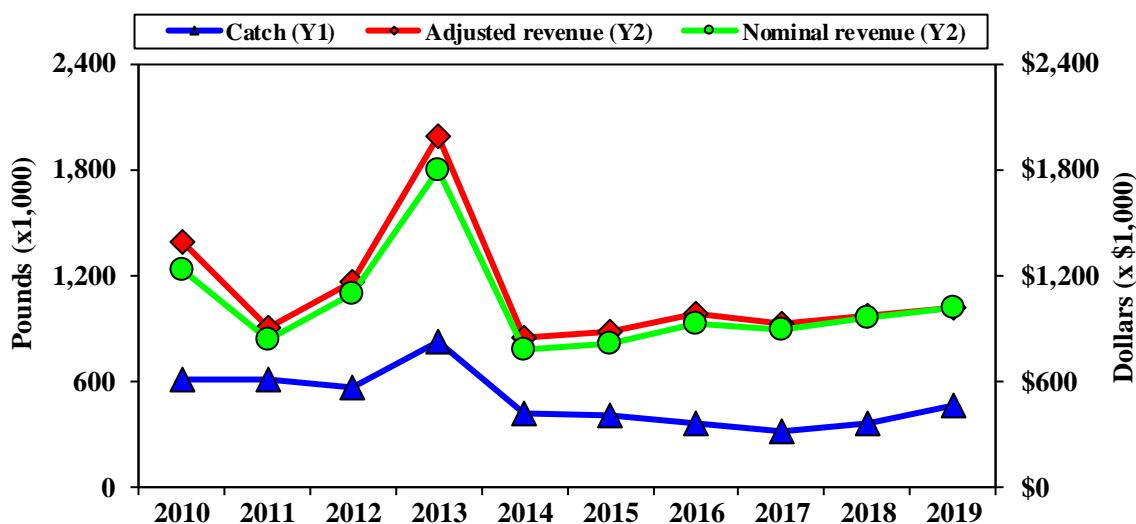
Supporting data shown in

Table A-42.

Figure 43. Tuna CPUE for the offshore tuna handline fishery, 2010-2019.
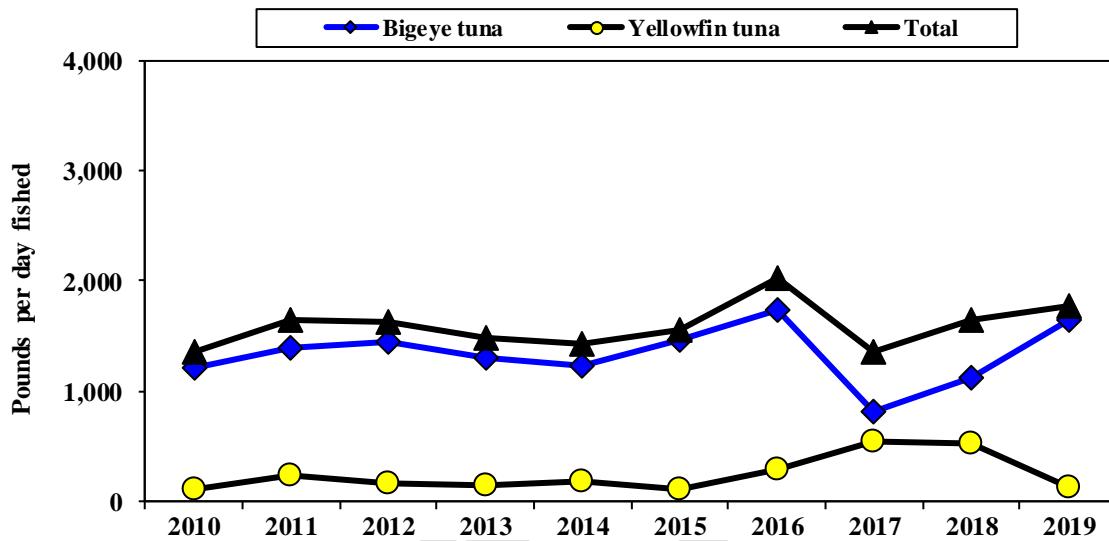
Supporting data shown in Table A-438.

Table 10. Average weight (lbs) of the catch by the Hawai`i troll and handline fisheries, 2010-2019.

	Tunas				Billfish			Other PMUS	
Year	Albacore	Bigeye tuna	Skipjack tuna	Yellowfin tuna	Blue marlin	Striped marlin	Swordfish	Mahimahi	Ono (wahoo)
2010	48.0	30.3	4.8	28.9	246.5	105.2	162.6	13.7	25.9
2011	45.1	26.8	8.5	30.5	215.7	47.6	134.8	12.4	27.2
2012	48.1	23.1	5.2	31.0	259.2	52.9	120.7	12.3	24.4
2013	46.1	23.9	8.6	35.2	257.3	64.7	101.2	12.4	23.9
2014	43.8	24.1	6.7	34.5	245.4	49.5	118.9	12.3	22.0
2015	44.1	21.5	8.1	33.9	170.5	72.9	96.4	13.2	21.7
2016	47.7	20.9	8.4	33.7	145.1	63.1	117.0	12.0	23.0
2017	53.0	24.1	9.1	42.9	175.8	73.9	121.4	11.0	23.1
2018	52.5	25.4	7.9	45.2	193.2	66.6	110.6	11.8	20.5
2019	54.5	22.8	8.9	33.0	150.8	62.2	129.8	12.7	21.0
Average	**48.3**	**24.3**	**7.6**	**34.9**	**205.9**	**65.8**	**121.3**	**12.4**	**23.3**
SD	**3.8**	**2.7**	**1.5**	**5.2**	**44.5**	**16.5**	**18.6**	**0.7**	**2.1**

APPENDIX A: SUPPORTING DATA TABLES FOR FIGURES IN CHAPTER 2 – DATA MODULES AND SECTION 3.1 – HUMAN DIMENSIONS

Table   **Page**

TABLES FOR SECTION 2.4: HAWAIʻI

Table A-1. Supporting Data for

Figure 1. Hawai`i commercial tuna, billfish, other PMUS and PMUS shark catch, 2010-2019.

Year	Tunas	Billfish	Other PMUS	PMUS Sharks	non-PMUS	Total
			Hawaii pelagic catch (1,000 pounds)			
2010	17,606	5,363	5,343	244	33	28,405
2011	19,945	6,229	4,936	190	51	31,343
2012	21,296	5,107	5,682	181	26	32,288
2013	21,321	5,440	6,215	131	25	33,133
2014	21,317	6,721	6,932	129	18	35,116
2015	25,515	6,928	7,186	150	23	39,802
2016	25,038	5,687	6,167	168	24	37,083
2017	26,584	7,060	5,543	166	11	39,364
2018	25,439	5,732	6,515	139	12	37,838
2019	24,807	5,700	5,902	115	5	36,529
Average	**22,886.9**	**5,996.6**	**6,042.1**	**161.2**	**22.9**	**35,090.1**
SD	**2,970.1**	**693.9**	**705.7**	**37.9**	**12.9**	**3,718.9**

Table A-2. Supporting Data for Figure 2. Total commercial pelagic catch by gear type, 2010-2019.

Year	Hawaii pelagic total catch (1,000 pounds)						
	Deep-set longline	Shallow-set longline	MHI troll	MHI handline	Offshore handline	Other gear	Total
2010	20,075	3,614	2,855	933	614	314	28,405
2011	22,796	3,500	2,966	1,129	610	342	31,343
2012	22,975	2,814	3,690	1,602	562	645	32,288
2013	25,006	2,345	3,117	1,282	831	550	33,133
2014	26,615	3,255	3,486	1,161	416	182	35,116
2015	32,136	2,778	3,094	1,200	409	184	39,802
2016	31,434	1,849	2,582	785	366	67	37,083
2017	32,760	3,007	2,209	975	323	89	39,364
2018	32,410	1,438	2,743	778	366	104	37,838
2019	31,955	837	2,460	675	470	131	36,529
Average	27,816.4	2,543.7	2,920.2	1,052.1	496.8	260.9	35,090.1
SD	4,857.2	916.9	453.6	279.7	157.0	200.3	3,718.9

Table A-3. Supporting Data for

Figure 3. Hawai`i commercial tuna catch by gear type, 2010-2019.

Year	Hawaii tuna catch by gear type (1,000 pounds)						
	Deep-set longline	Shallow-set longline	MHI troll	MHI handline	Offshore handline	Other gear	Total
2010	14,140	200	1,381	818	597	470	17,606
2011	16,250	209	1,509	1,061	602	314	19,945
2012	16,590	131	1,926	1,496	548	605	21,296
2013	17,019	82	1,745	1,166	810	499	21,321
2014	17,898	101	1,743	1,026	403	145	21,317
2015	22,255	123	1,473	1,106	400	157	25,515
2016	22,450	106	1,368	703	362	48	25,038
2017	23,768	274	1,253	899	310	80	26,584
2018	22,588	188	1,494	717	358	94	25,439
2019	22,310	93	1,207	615	462	120	24,807
Average	19,526.9	150.8	1,509.8	960.7	485.3	253.4	22,886.9
SD	3,470.8	63.3	230.6	265.5	153.5	203.0	2,970.1

Table A-4. Supporting Data for Figure 4. Species composition of the tuna catch, 2010-2019.

Year	Hawaii tuna catch (1,000 pounds)						
	Bigeye tuna	Yellowfin tuna	Skipjack tuna	Albacore	Bluefin tuna	Other tunas	Total
2010	13,208	2,747	662	963	0	26	17,606
2011	13,477	3,855	854	1,736	0	23	19,945
2012	13,956	4,103	1,158	2,011	1	67	21,296
2013	15,699	3,698	1,109	803	1	11	21,321
2014	16,564	3,522	648	552	1	30	21,317
2015	20,009	4,068	722	679	0	36	25,515
2016	18,663	4,956	801	602	1	14	25,038
2017	17,955	7,596	732	287	3	11	26,584
2018	17,093	7,567	530	239	1	10	25,439
2019	17,758	5,952	828	255	4	10	24,807
Average	16,438.2	4,806.5	804.5	812.7	1.2	23.8	22,886.9
SD	2,311.7	1,693.1	198.0	610.9	1.3	17.9	2,970.1

Table A-5. Supporting Data for

Figure 5. Hawai`i bigeye tuna catch by gear type, 2010-2019.

Year	Hawaii bigeye tuna catch (1,000 pounds)						
	Deep-set longline	Shallow-set longline	MHI troll	MHI handline	Offshore handline	Other gear	Total
2010	11,736	143	261	212	542	314	13,208
2011	12,315	106	243	140	515	158	13,477
2012	12,741	75	341	131	491	177	13,956
2013	14,240	45	326	147	719	222	15,699
2014	15,657	65	315	105	348	75	16,564
2015	19,248	99	129	74	373	87	20,009
2016	18,070	75	75	93	310	40	18,663
2017	17,498	126	81	48	185	17	17,955
2018	16,635	108	59	30	244	17	17,093
2019	17,068	60	77	63	428	62	17,758
Average	15,520.7	90.1	190.6	104.4	415.5	116.9	16,438.2
SD	2,623.0	31.4	117.2	54.6	157.7	98.3	2,311.7

Table A-6. Supporting Data for Figure 6. Hawai`i yellowfin tuna catch by gear type, 2010-2019.

Year	Hawaii yellowfin tuna catch (1,000 pounds)						
	Deep-set longline	Shallow-set longline	MHI troll	MHI handline	Offshore handline	Other gear	Total
2010	1,202	23	881	542	49	50	2,747
2011	2,009	38	970	704	84	50	3,855
2012	1,886	29	1,304	759	53	72	4,103
2013	1,582	22	1,078	894	82	40	3,698
2014	1,407	24	1,224	795	53	21	3,522
2015	2,012	17	1,095	878	25	41	4,068
2016	3,304	29	1,024	542	51	5	4,956
2017	5,581	137	951	758	124	45	7,596
2018	5,437	75	1,240	628	114	73	7,567
2019	4,436	30	892	507	31	56	5,952
Average	**2,885.6**	**42.4**	**1,065.7**	**700.7**	**66.7**	**45.4**	**4,806.5**
SD	**1,686.8**	**37.0**	**149.7**	**140.4**	**33.3**	**20.7**	**1,693.1**

Table A-7. Supporting Data for

Figure 7. Hawai`i skipjack tuna catch by gear type, 2010-2019.

Year	Hawaii skipjack tuna catch (1,000 pounds)						
	Deep-set longline	Shallow-set longline	MHI troll	MHI handline	Offshore handline	Other gear	Total
2010	332	1	211	14	3	101	662
2011	453	1	279	17	3	101	854
2012	541	1	240	20	4	352	1,158
2013	515	0	328	22	9	235	1,109
2014	411	0	172	15	3	48	648
2015	467	1	213	11	2	28	722
2016	529	0	258	11	0	3	801
2017	485	1	214	13	0	18	732
2018	329	0	185	12	0	4	530
2019	575	0	230	20	1	1	828
Average	**463.8**	**0.7**	**232.9**	**15.4**	**2.6**	**89.1**	**804.5**
SD	**84.4**	**0.4**	**46.2**	**4.1**	**2.5**	**117.1**	**198.0**

Table A-8. Supporting Data for Figure 8. Hawai`i albacore catch by gear type, 2010-2019.

	Hawaii albacore catch (1,000 pounds)						
Year	Deep-set longline	Shallow-set longline	MHI troll	MHI handline	Offshore handline	Other gear	Total
2010	870	33	4	48	3	5	963
2011	1,473	64	8	186	0	5	1,736
2012	1,421	26	7	554	0	3	2,011
2013	682	14	4	101	0	2	803
2014	423	12	7	108	0	1	552
2015	529	7	4	139	0	0	679
2016	546	2	2	52	0	0	602
2017	200	9	1	76	1	0	287
2018	187	5	3	44	0	0	239
2019	227	3	2	22	1	0	255
Average	**655.7**	**17.4**	**4.1**	**133.1**	**0.6**	**1.8**	**812.7**
SD	**470.7**	**19.2**	**2.5**	**156.0**	**0.9**	**2.0**	**610.9**

Table A-9. Supporting Data for

Figure 9. Hawai`i commercial billfish catch by gear type, 2010-2019.

	Hawaii billfish catch (1,000 lbs)						
Year	Deep-set longline	Shallow-set longline	MHI troll	MHI handline	Offshore handline	Other gear	Total
2010	1,710	3,305	335	11	1	1	5,363
2011	2,549	3,176	486	15	1	2	6,229
2012	2,167	2,564	346	22	1	7	5,107
2013	2,895	2,177	334	18	5	10	5,440
2014	3,282	3,033	373	21	6	6	6,721
2015	3,898	2,539	462	16	4	9	6,928
2016	3,608	1,677	382	15	1	3	5,687
2017	4,059	2,625	349	20	4	3	7,060
2018	4,106	1,216	392	13	1	4	5,732
2019	4,572	722	383	15	3	6	5,700
Average	**3,284.7**	**2,303.3**	**384.2**	**16.7**	**2.6**	**5.1**	**5,996.6**
SD	**933.0**	**857.5**	**51.9**	**3.5**	**1.9**	**3.0**	**693.9**

Table A-10. Supporting Data for Figure 10. Species composition of the billfish catch, 2010-2019.

Year	Hawaii billfish catch (1,000 lbs)					
	Swordfish	Blue marlin	Striped marlin	Spearfish	Other marlins	Total
2010	3,700	975	376	280	32	5,363
2011	3,568	1,244	834	543	40	6,229
2012	3,094	950	647	386	30	5,107
2013	2,816	1,190	898	497	39	5,440
2014	3,690	1,511	967	501	52	6,721
2015	3,356	1,804	1,112	605	50	6,928
2016	2,418	1,542	887	784	56	5,687
2017	3,582	1,833	910	688	46	7,060
2018	2,329	1,808	1,052	504	39	5,732
2019	1,625	2,335	1,238	452	50	5,700
Average	**3,017.8**	**1,519.2**	**892.0**	**524.1**	**43.4**	**5,996.6**
SD	**705.1**	**438.8**	**242.5**	**144.1**	**8.8**	**693.9**

Table A-11. Supporting Data for

Figure 11. Hawai`i swordfish catch by gear type, 2010-2019.

Year	Swordfish catch (1,000 lbs)						
	Deep-set longline	Shallow-set longline	MHI troll	MHI handline	Offshore handline	Other gear	Total
2010	432	3,258	1	9	0	0	3,700
2011	456	3,100	1	11	0	0	3,568
2012	566	2,508	1	18	0	1	3,094
2013	677	2,120	1	14	1	2	2,816
2014	694	2,978	2	15	0	1	3,690
2015	843	2,500	2	11	0	1	3,356
2016	794	1,615	0	9	0	1	2,418
2017	998	2,570	1	13	1	0	3,582
2018	1,111	1,210	1	6	0	1	2,329
2019	897	720	1	7	0	1	1,625
Average	**746.7**	**2,257.8**	**1.1**	**11.2**	**0.2**	**0.7**	**3,017.8**
SD	**224.5**	**839.5**	**0.6**	**3.7**	**0.3**	**0.7**	**705.1**

Table A-12. Supporting Data for Figure 12. Hawai`i blue marlin catch by gear type, 2010-2019.

	Blue marlin catch (1,000 lbs)						
Year	Deep-set longline	Shallow-set longline	MHI troll	MHI handline	Offshore handline	Other gear	Total
2010	657	18	296	2	1	1	975
2011	797	27	414	4	1	1	1,244
2012	630	26	285	4	1	4	950
2013	879	17	282	4	3	6	1,190
2014	1,160	19	318	4	5	4	1,511
2015	1,380	12	399	5	3	6	1,804
2016	1,194	28	311	5	1	2	1,542
2017	1,502	14	306	6	2	2	1,833
2018	1,463	1	336	6	0	2	1,808
2019	1,988	0	332	8	2	5	2,335
Average	**1,164.9**	**16.2**	**327.9**	**4.8**	**2.0**	**3.3**	**1,519.2**
SD	**433.1**	**9.9**	**45.2**	**1.6**	**1.4**	**1.8**	**438.8**

Table A-13. Supporting Data for

Figure 13. Hawai`i striped marlin catch by gear type, 2010-2019.

	Striped marlin catch (1,000 lbs)						
Year	Deep-set longline	Shallow-set longline	MHI troll	MHI handline	Offshore handline	Other gear	Total
2010	338	26	12	0	0	0	376
2011	756	43	35	0	0	0	834
2012	596	25	25	0	0	1	647
2013	843	35	18	0	0	1	898
2014	908	31	27	1	0	0	967
2015	1,064	24	23	0	0	1	1,112
2016	831	29	27	1	0	0	887
2017	861	34	14	0	0	0	910
2018	1,021	4	26	0	0	1	1,052
2019	1,207	1	29	0	0	1	1,238
Average	**842.5**	**25.1**	**23.5**	**0.2**	**0.1**	**0.5**	**892.0**
SD	**245.2**	**13.2**	**7.1**	**0.3**	**0.2**	**0.5**	**242.5**

Table A-14. Supporting Data for Figure 14. Hawai`i commercial catch of other PMUS by gear type, 2010-2019.

Year	Catch of other PMUS by gear type (1,000 lbs)						
	Deep-set longline	Shallow-set longline	MHI troll	MHI handline	Offshore handline	Other gear	Total
2010	4,199	109	1,135	102	16	26	5,587
2011	3,952	115	967	52	7	33	5,126
2012	4,198	119	1,413	83	13	37	5,863
2013	5,071	86	1,036	97	16	40	6,346
2014	5,421	121	1,367	114	7	30	7,061
2015	5,964	116	1,155	78	4	18	7,336
2016	5,356	67	828	66	3	15	6,335
2017	4,926	108	603	56	10	7	5,709
2018	5,706	34	855	48	7	6	6,654
2019	5,069	22	869	45	5	5	6,017
Average	**4,986.3**	**89.6**	**1,022.8**	**74.1**	**8.8**	**21.7**	**6,203.3**
SD	**677.3**	**36.6**	**251.7**	**24.4**	**4.7**	**13.3**	**682.7**

Table A-15. Supporting Data

Figure 15. Species composition of other PMUS catch, 2010-2019.

Year	Catch of other PMUS by species (1,000 lbs)						
	Mahimahi	Moonfish	Oilfish	Ono	Pomfret	PMUS shark	Total
2010	1,703	1,781	521	758	580	244	5,587
2011	1,628	1,622	589	675	422	190	5,126
2012	2,007	1,593	563	809	710	181	5,863
2013	1,588	2,073	580	883	1,091	131	6,346
2014	1,819	2,242	516	1,176	1,179	129	7,061
2015	1,495	2,662	528	1,223	1,278	150	7,336
2016	1,232	2,166	481	1,204	1,084	168	6,335
2017	1,003	2,293	338	984	925	166	5,709
2018	1,077	3,070	315	1,176	878	139	6,654
2019	1,000	2,255	306	1,591	749	115	6,017
Average	**1,455.2**	**2,175.7**	**473.6**	**1,047.9**	**889.7**	**161.2**	**6,203.3**
SD	**357.8**	**456.2**	**111.3**	**277.7**	**275.1**	**37.9**	**682.7**

Table A-16. Supporting Data for Figure 16. Hawai`i moonfish catch by gear type, 2010-2019.

Year	Moonfish catch (1,000 lbs)			
	Deep-set longline	Shallow-set longline	Other gear	Total
2010	1,772	9	0	1,781
2011	1,616	6	0	1,622
2012	1,574	17	2	1,593
2013	2,063	10	0	2,073
2014	2,213	28	0	2,242
2015	2,622	39	1	2,661
2016	2,148	19	0	2,166
2017	2,261	32	0	2,293
2018	3,057	13	0	3,070
2019	2,253	3	0	2,255
Average	**2,157.8**	**17.6**	**0.3**	**2,175.7**
SD	**452.0**	**12.0**	**0.6**	**456.2**

Table A-17. Supporting Data

Figure 17. Hawai`i mahimahi catch by gear type, 2010-2019.

Year	Mahimahi catch (1,000 lbs)						
	Deep-set longline	Shallow-set longline	MHI troll	MHI handline	Offshore handline	Other gear	Total
2010	934	31	671	41	14	12	1,703
2011	860	60	656	30	6	16	1,628
2012	889	46	988	53	12	19	2,007
2013	846	43	639	37	12	11	1,588
2014	810	45	901	52	5	7	1,819
2015	692	30	734	27	2	9	1,495
2016	636	16	558	19	1	3	1,232
2017	548	15	416	18	1	3	1,003
2018	495	6	553	18	1	3	1,077
2019	431	2	548	17	2	1	1,000
Average	**714.1**	**29.4**	**666.4**	**31.2**	**5.7**	**8.5**	**1,455.2**
SD	**179.3**	**19.1**	**171.6**	**14.0**	**5.1**	**6.0**	**357.8**

Table A-18. Supporting Data for Figure 18. Hawai`i ono (wahoo) catch by gear type, 2010-2019.

Year	Ono catch (1,000 lbs)						
	Deep-set longline	Shallow-set longline	MHI troll	MHI handline	Offshore handline	Other gear	Total
2010	277	3	463	11	1	3	758
2011	352	1	309	9	1	3	675
2012	366	1	424	15	1	2	809
2013	464	1	396	16	2	4	883
2014	684	2	465	20	1	5	1,176
2015	781	1	421	17	1	3	1,223
2016	920	1	269	11	0	2	1,204
2017	784	3	186	9	1	2	984
2018	859	1	301	13	0	1	1,176
2019	1,252	0	321	14	2	2	1,591
Average	**673.9**	**1.3**	**355.4**	**13.4**	**1.0**	**2.8**	**1,047.9**
SD	**307.8**	**0.9**	**92.3**	**3.5**	**0.6**	**1.1**	**277.7**

Table A-19. Supporting Data for

Figure 19. Hawai`i pomfret catch by gear type, 2010-2019.

Year	Pomfret catch (1,000 lbs)					
	Deep-set longline	Shallow-set longline	MHI handline	Offshore handline	Other gear	Total
2010	525	1	43	1	10	580
2011	398	1	11	0	12	422
2012	682	5	11	0	12	710
2013	1,027	1	41	2	20	1,091
2014	1,118	2	41	1	18	1,179
2015	1,242	1	31	1	4	1,278
2016	1,038	0	34	2	10	1,084
2017	888	0	28	7	1	925
2018	857	0	16	5	1	878
2019	731	0	15	2	2	749
Average	**850.5**	**1.3**	**27.0**	**2.0**	**8.9**	**889.6**
SD	**267.8**	**1.5**	**12.9**	**2.4**	**6.8**	**275.1**

Table A-20. Supporting Data for Figure 20. Hawai`i PMUS shark catch by gear type, 2010-2019.

Year	PMUS shark catch (1,000 lbs)			
	Deep-set longline	Shallow-set longline	Non-longline	Total
2010	210	28	6	244
2011	171	14	5	190
2012	150	26	5	181
2013	112	15	4	131
2014	106	20	3	129
2015	120	25	4	150
2016	140	24	4	168
2017	116	49	2	166
2018	126	12	2	139
2019	98	16	1	115
Average	**134.8**	**22.9**	**3.5**	**161.2**
SD	**34.3**	**10.7**	**1.7**	**37.9**

Table A-21. Supporting Data for Figure 21. Number of Hawai`i-permitted deep-set longline vessels, trips and sets 2010-2019.

Year	Deep-set longline		
	Vessels	Trips	Sets
2010	122	1,206	16,075
2011	129	1,308	17,192
2012	128	1,361	18,115
2013	135	1,383	18,754
2014	139	1,350	17,777
2015	142	1,447	18,470
2016	142	1,480	19,391
2017	145	1,539	19,674
2018	143	1,643	21,012
2019	150	1,724	22,513
Average	**137.5**	**1,444.1**	**18,897.3**
SD	**8.8**	**157.4**	**1865.9**

Table A-22. Supporting Data for Figure 22. Number of hooks set by the Hawai`i-permitted deep-set longline fishery, 2010-2019.

| Year | Number of deep-set hooks by area (millions) | | | |
	Outside EEZ	Hawaii EEZ	PRIA EEZ	Total
2010	27.9	7.9	1.4	37.2
2011	26.3	13.7	0.9	40.8
2012	28.2	14.0	1.9	44.1
2013	32.8	12.9	1.2	46.9
2014	34.0	10.8	0.8	45.6
2015	32.9	14.3	0.3	47.5
2016	38.6	12.5	0.1	51.1
2017	40.5	13.0	0.0	53.6
2018	43.1	15.4	0.0	58.6
2019	48.9	14.3	0.0	63.2
Average	**35.32**	**12.88**	**0.66**	**48.86**
SD	**7.33**	**2.15**	**0.68**	**7.94**

Table A-23. Supporting Data for Figure 23. Catch and revenue for the Hawai`i-permitted deep-set longline fishery, 2010-2019.

Year	Catch (1,000 lbs)	Adjusted revenue ($1,000)	Nominal revenue ($1,000)	Honolulu CPI
2010	20,075	$75,549	$63,014	234.9
2011	22,796	$82,310	$71,211	243.6
2012	22,975	$97,780	$86,627	249.5
2013	25,006	$93,571	$84,376	253.9
2014	26,615	$85,942	$78,617	257.6
2015	32,136	$98,740	$91,229	260.2
2016	31,434	$105,288	$99,190	265.3
2017	32,760	$99,523	$96,137	272.0
2018	32,410	$102,982	$101,332	277.1
2019	31,955	$92,861	$92,861	281.6
Average	**27,816.4**	**$93,454.6**	**$86,459.5**	
SD	**4,857.2**	**$9,521.3**	**$12,421.8**	

Table A-24. Supporting Data for Figure 24. Tuna CPUE for the Hawai`i-permitted deep-set longline fishery, 2010-2019.

Year	Deep-set longline CPUE (fish per 1,000 hooks)		
	Bigeye tuna	Yellowfin tuna	Albacore
2010	3.6	0.4	0.5
2011	3.8	0.8	0.8
2012	3.6	0.6	0.7
2013	4.1	0.4	0.3
2014	4.7	0.4	0.2
2015	4.8	0.6	0.2
2016	4.3	0.9	0.2
2017	4.2	1.5	0.1
2018	3.7	1.1	0.1
2019	3.5	1.0	0.1
Average	**4.03**	**0.77**	**0.32**
SD	**0.47**	**0.36**	**0.26**

Table A-25. Supporting Data for Figure 25. Billfish CPUE for the Hawai`i-permitted deep-set longline fishery, 2010-2019.

Year	Deep-set longline CPUE (fish per 1,000 hooks)		
	Swordfish	Striped marlin	Blue marlin
2010	0.1	0.1	0.1
2011	0.1	0.4	0.1
2012	0.1	0.2	0.1
2013	0.1	0.3	0.1
2014	0.1	0.3	0.1
2015	0.1	0.3	0.2
2016	0.1	0.2	0.1
2017	0.1	0.2	0.1
2018	0.1	0.3	0.1
2019	0.1	0.3	0.2
Average	**0.10**	**0.26**	**0.12**
SD	**0.00**	**0.08**	**0.04**

Table A-26. Supporting Data for Figure 26. Blue shark CPUE for the Hawai`i-permitted deep-set longline fishery, 2010-2019.

	Deep-set CPUE (fish per 1000 hooks)
Year	Blue shark
2010	1.1
2011	1.2
2012	1.0
2013	1.0
2014	1.2
2015	1.4
2016	1.4
2017	1.6
2018	1.6
2019	1.8
Average	1.33
SD	0.28

Table A-27. Supporting Data for Figure 27. Number of Hawai`i-permitted shallow-set longline vessels, trips and sets, 2010-2019.

	Shallow-set longline		
Year	Vessels	Trips	Sets
2010	28	115	1,873
2011	20	82	1,447
2012	18	82	1,351
2013	15	58	962
2014	20	81	1,338
2015	22	69	1,130
2016	13	46	727
2017	20	70	994
2018	11	30	420
2019	14	25	284
Average	18.1	65.8	1,052.6
SD	5.0	27.1	484.6

Table A-28. Supporting Data for Figure 28. Number of hooks set by the Hawai`i-permitted shallow-set longline fishery, 2010-2019.

Year	Number of hooks set by area (milions)			
	Outside EEZ	Hawaii EEZ	PRIA EEZ	Total
2010	1.4	0.5	0.0	1.8
2011	1.2	0.3	0.0	1.5
2012	1.2	0.2	0.0	1.4
2013	0.9	0.1	0.0	1.1
2014	1.3	0.1	0.0	1.5
2015	1.1	0.2	0.0	1.3
2016	0.7	0.1	0.0	0.8
2017	1.0	0.1	0.0	1.1
2018	0.5	0.0	0.0	0.5
2019	0.4	0.0	0.0	0.4
Average	**0.97**	**0.16**	**0.00**	**1.14**
SD	**0.34**	**0.15**	**0.00**	**0.46**

Table A-29. Supporting Data for Figure 29. Catch and revenue for the Hawai`i-permitted shallow-set longline fishery, 2010-2019.

Year	Catch (1,000 lbs)	Adjusted revenue ($1,000)	Nominal revenue ($1,000)	Honolulu CPI
2010	3,614	$7,921	$6,607	234.9
2011	3,500	$7,057	$6,105	243.6
2012	2,814	$6,548	$5,801	249.5
2013	2,345	$3,526	$3,180	253.9
2014	3,255	$4,454	$4,074	257.6
2015	2,778	$3,041	$2,810	260.2
2016	1,849	$2,638	$2,486	265.3
2017	3,007	$4,379	$4,230	272.0
2018	1,438	$1,576	$1,551	277.1
2019	837	$1,969	$1,969	281.6
Average	**2,543.7**	**$4,310.9**	**$3,881.2**	
SD	**916.9**	**$2,200.8**	**$1,791.8**	

Table A-30. Supporting Data for Figure 30. Tuna CPUE for the Hawai`i-permitted shallow-set longline fishery, 2010-2019.

| Year | Shallow-set longline CPUE (fish per 1,000 hooks) | | |
	Bigeye tuna	Yellowfin tuna	Albacore
2010	0.9	0.1	1.0
2011	0.7	0.2	2.0
2012	0.6	0.2	0.8
2013	0.4	0.2	0.5
2014	0.6	0.1	0.4
2015	1.1	0.1	0.2
2016	1.2	0.4	0.1
2017	1.4	1.4	0.3
2018	2.6	1.6	0.3
2019	2.5	0.9	0.2
Average	**1.20**	**0.52**	**0.58**
SD	**0.77**	**0.57**	**0.57**

Table A-31. Supporting Data for Figure 30. Tuna CPUE for the Hawai`i-permitted shallow-set longline fishery, 2010-2019.

| Year | Shallow-set longline CPUE (fish per 1,000 hooks) | | |
	Swordfish	Striped marlin	Blue marlin
2010	9.3	0.1	0.0
2011	11.0	0.4	0.1
2012	9.9	0.2	0.1
2013	10.1	0.4	0.1
2014	10.4	0.2	0.1
2015	11.9	0.2	0.0
2016	12.4	0.4	0.1
2017	12.9	0.4	0.1
2018	12.2	0.1	0.0
2019	9.8	0.0	0.0
Average	**10.99**	**0.24**	**0.06**
SD	**1.27**	**0.15**	**0.05**

Table A-31. Supporting Data for Figure 32. Blue shark CPUE for the Hawai`i-permitted shallow-set longline fishery, 2010-2019.

Year	Shallow-set CPUE (fish per 1000 hooks) Blue shark
2010	9.3
2011	5.3
2012	4.2
2013	4.9
2014	6.8
2015	10.0
2016	13.8
2017	9.0
2018	5.1
2019	8.5
Average	7.69
SD	3.00

Table A-32. Supporting Data for Figure 33. Number of MHI troll fishers and days fished, 2010-2019.

Year	Fishers	Days fished
2010	1,614	29,378
2011	1,676	29,274
2012	1,769	30,537
2013	1,731	26,974
2014	1,697	27,383
2015	1,626	26,553
2016	1,485	23,461
2017	1,414	21,399
2018	1,383	21,851
2019	1,291	20,359
Average	1,568.6	25,716.9
SD	164.1	3,677.7

Table A-4. Supporting Data for Figure 34. Catch and revenue for the MHI troll fishery, 2010-2019.

Year	Catch (1,000 lbs)	Adjusted revenue ($1,000)	Nominal revenue ($1,000)	Honolulu CPI
2010	2,855	$6,110	$5,410	234.9
2011	2,966	$6,279	$5,766	243.6
2012	3,690	$9,139	$8,594	249.5
2013	3,117	$8,151	$7,350	253.9
2014	3,486	$9,148	$8,368	257.6
2015	3,094	$8,403	$7,763	260.2
2016	2,582	$8,023	$7,558	265.3
2017	2,209	$6,598	$6,374	272.0
2018	2,743	$8,121	$7,991	277.1
2019	2,460	$7,229	$7,229	281.6
Average	**2,920.2**	**$7,720.0**	**$7,240.5**	
SD	**453.6**	**$1,111.7**	**$1,071.4**	

Table A-33. Supporting Data for Figure 35. Tuna CPUE for the MHI troll fishery, 2010-2019.

MHI troll tuna CPUE (pounds per day fished)			MHI troll tuna CPUE (pounds per hour fished)		
Year	Yellowfin tuna	Skipjack tuna	Year	Yellowfin tuna	Skipjack tuna
2010	30.1	7.2	**2010**	4.6	1.1
2011	33.5	9.6	**2011**	5.0	1.4
2012	42.9	7.9	**2012**	6.3	1.2
2013	40.0	12.2	**2013**	5.9	1.8
2014	44.7	6.3	**2014**	6.6	0.9
2015	41.3	8.0	**2015**	6.4	1.2
2016	44.1	11.0	**2016**	6.8	1.7
2017	44.5	10.0	**2017**	6.9	1.6
2018	56.7	8.5	**2018**	8.6	1.3
2019	43.8	11.3	**2019**	6.7	1.7
Average	**42.17**	**9.20**	**Average**	**6.38**	**1.39**
SD	**7.13**	**1.94**	**SD**	**1.09**	**0.30**

Table A-34. Supporting Data for
Figure 36. Marlin CPUE for the MHI troll fishery, 2010-2019.

MHI troll marlin CPUE (pounds per day fished)			MHI troll marlin CPUE (pounds per hour fished)		
Year	**Blue marlin**	**Striped marlin**	**Year**	**Blue marlin**	**Striped marlin**
2010	10.0	0.4	**2010**	1.5	0.1
2011	14.3	1.2	**2011**	2.1	0.2
2012	9.1	0.8	**2012**	1.3	0.1
2013	10.5	0.7	**2013**	1.6	0.1
2014	11.6	1.0	**2014**	1.7	0.2
2015	14.8	0.9	**2015**	2.3	0.1
2016	13.4	1.1	**2016**	2.1	0.2
2017	14.3	0.6	**2017**	2.2	0.1
2018	15.4	1.2	**2018**	2.3	0.2
2019	16.3	1.4	**2019**	2.5	0.2
Average	**12.97**	**0.93**	**Average**	**1.97**	**0.14**
SD	**2.49**	**0.31**	**SD**	**0.40**	**0.05**

Table A-35. Supporting Data for Figure 37. Mahimahi and Ono CPUE for the MHI troll
fishery, 2010-2019.

MHI troll mahimahi and ono CPUE (pounds per day fished)			MHI troll mahimahi and ono CPUE (pounds per hour fished)		
Year	**Mahimahi**	**Ono (wahoo)**	**Year**	**Mahimahi**	**Ono (wahoo)**
2010	22.9	15.5	**2010**	3.5	2.4
2011	22.7	10.6	**2011**	3.4	1.6
2012	32.6	14.0	**2012**	4.8	2.1
2013	23.8	14.8	**2013**	3.5	2.2
2014	32.9	17.0	**2014**	4.9	2.5
2015	27.6	15.8	**2015**	4.3	2.4
2016	23.9	11.5	**2016**	3.7	1.8
2017	19.5	8.7	**2017**	3.0	1.4
2018	25.3	13.8	**2018**	3.8	2.1
2019	26.9	15.8	**2019**	4.1	2.4
Average	**25.83**	**13.75**	**Average**	**3.90**	**2.08**
SD	**4.30**	**2.65**	**SD**	**0.61**	**0.39**

Table A-36. Supporting Data for Figure 38. Number of MHI handline fishers and days fished, 2010-2019.

Year	Fishers	Days fished
2010	560	4,416
2011	584	5,362
2012	651	6,585
2013	592	5,467
2014	556	5,096
2015	528	4,880
2016	471	4,009
2017	491	4,669
2018	427	4,023
2019	438	3,629
Average	**529.8**	**4,813.6**
SD	**72.3**	**869.5**

Table A-379. Supporting Data for Figure 39. Catch and revenue for the MHI handline fishery, 2010-2019.

Year	Catch (1,000 lbs)	Adjusted revenue ($1,000)	Nominal revenue ($1,000)	Honolulu CPI
2010	933	$2,153	$1,906	234.9
2011	1,129	$2,322	$2,132	243.6
2012	1,602	$3,574	$3,361	249.5
2013	1,282	$3,733	$3,366	253.9
2014	1,161	$3,214	$2,940	257.6
2015	1,200	$3,134	$2,896	260.2
2016	785	$2,509	$2,364	265.3
2017	975	$2,992	$2,890	272.0
2018	778	$2,427	$2,388	277.1
2019	675	$2,152	$2,152	281.6
Average	**1,052.1**	**$2,820.9**	**$2,639.5**	
SD	**279.7**	**$584.6**	**$520.6**	

Table A-40. Supporting Data for Figure 40. Tuna CPUE for the MHI handline fishery, 2010-2019.

	MHI handline CPUE (pounds per day fished)			
Year	**Yellowfin tuna**	**Albacore**	**Bigeye tuna**	**Total**
2010	122.8	10.5	48.5	181.8
2011	132.8	34.2	26.2	193.2
2012	118.8	84.7	21.6	225.1
2013	164.2	18.5	26.9	209.6
2014	157.0	21.2	20.9	199.1
2015	179.9	28.6	15.2	223.7
2016	137.9	13.3	23.3	174.5
2017	162.3	16.3	10.3	188.9
2018	156.2	11.1	7.4	174.7
2019	139.7	6.0	17.4	163.1
Average	**147.16**	**24.44**	**21.77**	**193.36**
SD	**19.75**	**22.85**	**11.35**	**21.08**

	MHI handline CPUE (pounds per hour fished)			
Year	**Yellowfin tuna**	**Albacore**	**Bigeye tuna**	**Total**
2010	17.9	1.5	7.1	26.4
2011	18.8	4.9	3.7	27.4
2012	16.6	11.8	3.0	31.4
2013	22.5	2.5	3.7	28.7
2014	21.7	2.9	2.9	27.5
2015	26.4	4.2	2.2	32.8
2016	20.3	2.0	3.4	25.7
2017	22.3	2.2	1.4	25.9
2018	23.4	1.7	1.1	26.2
2019	21.4	0.9	2.7	24.9
Average	**21.11**	**3.46**	**3.12**	**27.69**
SD	**2.87**	**3.17**	**1.64**	**2.57**

Table A-41. Supporting Data for Figure 41. Number of offshore handline fishers and days fished, 2010-2019.

Year	**Fishers**	**Days fished**
2010	14	449
2011	13	368
2012	15	356
2013	15	552
2014	9	284
2015	9	255
2016	6	178
2017	6	229
2018	5	218
2019	7	261
Average	**9.9**	**315.0**
SD	**4.0**	**116.3**

Table A-42. Supporting Data for Figure 42. Catch and revenue for the offshore tuna handline fishery, 2010-2019.

Year	Catch (1,000 lbs)	Adjusted revenue ($1,000)	Nominal revenue ($1,000)	Honolulu CPI
2010	614	$1,389	$1,230	234.9
2011	610	$908	$834	243.6
2012	562	$1,163	$1,094	249.5
2013	831	$1,994	$1,798	253.9
2014	416	$851	$778	257.6
2015	409	$879	$812	260.2
2016	366	$980	$923	265.3
2017	323	$926	$894	272.0
2018	366	$973	$958	277.1
2019	470	$1,018	$1,018	281.6
Average	**496.8**	**$1,108.1**	**$1,033.9**	
SD	**157.0**	**$349.8**	**$301.5**	

Table A-438. Supporting Data for Figure 43. Tuna CPUE for the offshore tuna handline fishery, 2010-2019.

Year	Offshore handline CPUE (pounds per day fished)			
	Bigeye tuna	**Yellowfin tuna**	**Mahimahi**	**Total**
2010	1,208	110	32	1,350
2011	1,400	229	18	1,647
2012	1,443	154	36	1,634
2013	1,304	150	21	1,476
2014	1,228	183	20	1,431
2015	1,457	99	9	1,564
2016	1,744	289	3	2,036
2017	808	541	6	1,356
2018	1,118	524	7	1,649
2019	1,640	120	7	1,767
Average	**1,335.0**	**239.9**	**15.9**	**1,590.8**
SD	**267.5**	**164.6**	**11.5**	**208.2**